



Florida Department of Environmental Protection

SOUTHEAST DISTRICT OFFICE
3301 GUN CLUB ROAD, MSC 7210-1
WEST PALM BEACH, FL 33406
561-681-6600

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Ryan Matthews
Interim Secretary

Project Name: Sunset Beach PUD

Permittee/Authorized Entity:

CL-RP Hutchinson, LLC
c/o Patrick Leonard, Management Member
2870 Peachtree Road, Suite 176
Email: Patrick.Leonard@RocaPoint.com

Authorized Agents:

Ladyko Design Group, LLC
c/o Richard Ladyko
Phone: (772) 464-1383; Email: enginpod225@aol.com

Environmental Resource Permit - Granted

State-owned Submerged Lands Authorization – Not Applicable

U.S. Army Corps of Engineers Authorization – Not Applicable

Permit No.: 56-0264272-002-EM

Permit Issuance Date: January 27, 2017

Permit Construction Phase Expiration Date: January 26, 2022

Environmental Resource Permit

Permit No.: 56-0264272-002-EM

PROJECT LOCATION

The project is located within uplands and wetlands adjacent to the Atlantic Ocean and Indian River, Middle Cove, and Joe's Pond, Jensen Beach to Jupiter Inlet Aquatic Preserve, Outstanding Florida Waters, Class III and Class II Waters, east and west of State Road A1A, approximately 1700 feet north of the Middle Cove beach access on South Hutchinson Island (Section 29, Township 35 South, Range 41 East), in St. Lucie County (27° 24' 13" North Latitude, 80° 16' 10" West Longitude). Portions of the project are located seaward of the Coastal Construction Control Line (CCCL).

PROJECT DESCRIPTION

The project involves modification of previously issued Permit No. 56-0264272-001-EI and entails the construction of a forty-three (43) single family home development in St. Lucie County. The modification entails relocation of the recreational amenities, construction of a pile driven wooden access bridge from SR A1A; and the construction of two (2) 24-inch C.A.P. culverts crossing under S.R. A1A. In addition, the total acreage of the property is increased from 29.55 to 34.22 as a result of a new Mean High Water (MHW) survey.

This permit authorizes impacts to 105 ft² (0.002 acres) of wetlands and other surface waters. Although mangrove wetland habitat is located within the footprint of the pile supported bridge, only the minimum trimming activities necessary to install the bridge piles will take place. No mangrove tree removal will take place. These activities are not anticipated to result in any decrease in habitat due to the extent of the dense mangrove canopy in the pre-development and post-development condition. It is not anticipated that there will be any adverse impacts to wetlands; therefore, mitigation is not required.

SURFACE WATER MANAGEMENT SYSTEM (SWMS) DESIGN

Total Applicant-Owned Area: 34.22 acres

Drainage Area: 7.15 acres

Drainage Basin: Atlantic Ocean

Existing Drainage: The site is currently undeveloped and runoff sheet flows towards the Middle Cove Waterway, a saltwater basin a.k.a. Joe's Point which outfalls into the Indian River Lagoon via an existing 42-inch culvert.

Proposed Facilities: The site is configured into three separate drainage basins, (Basin 1, 2 and 3). The proposed surface water management system includes an exfiltration trench system and two dry detention systems that will provide for water quality treatment and attenuation prior to discharge into on-site wetlands. The site discharges ultimately via an existing 42-inch culvert to the Indian River Lagoon in the pre/post-developed rate.

Project Land-Use Summary:

Cover Type	Wetlands	Buildings	Roadway	Dry/ Detention	Dune Beach	Open Space	Total
Area, ac	12.81	1.63	1.72	0.31	10.52	5.50	32.50

Water Quality: Water quality treatment volume of 150% of the required treatment volume is provided in exfiltration trenches and dry detention basins.

Site	Area (acres)	Treatment Method	Volume Required (acres-feet)	Volume Provided (acres-feet)
Basin 1	1.85	Exfiltration Trenches/Dry Retention	0.231	0.231
Basin 2	5.06	“	0.631	0.649
Basin 3	0.24	“	0.041	0.041

Discharge Rate: The proposed surface water management system has been designed for the 25-year, 3-day storm with discharge to on-site mangrove wetlands at the pre-developed rate. The discharge structures dimension and elevation are summarized in the table below:

Structure No.	Description	Elevation (feet N.A.V.D.)	Discharge Culvert
CS# 1	Modified Inlet	Top of Grate @ 5.5 feet (1) 12-inch weir w/invert @ 4.0 feet (1) 3-inch circular bleeder w/invert @ 0.5 feet	4 linear feet of 30-inch culvert to spreader/wetlands
CS# 2	Modified Inlet	Top of Grate @ 5.8 feet (1) 12-inch weir w/invert @ 4.70 feet (1) 3-inch circular bleeder w/invert @ 0.5 feet	45 linear feet of 15-inch RCP culvert to wetlands
CS# 3	Manhole	Top of Weir @ 3.0 feet (1) 15-inch weir w/invert @ 2.25 feet (1) 3-inch circular bleeder w/invert @ 0.5 feet	10 linear feet of 15-inch CMP to wetlands

Finished Floors: Proposed minimum finished floor elevations have been set at or above the at 7.5 feet N.A.V.D. or the elevation dictated by the Bureau of Beaches and Coastal System.

Cultural and Historical Resources: The State Historic Preservation Officer has determined that the project will not have an effect on cultural resources of historic, architectural, or archaeological value.

System Operation: Sunset Beach Homeowner’s Association, Inc.

Water Use Permit Status: A water use permit has not been applied for.

Potable Water and Wastewater System/Supplier: Fort Pierce Utilities Authority will provide potable water service and St. Lucie County Utilities will provide wastewater service.

Save Our Rivers: This project is not within or adjacent to lands under consideration by the Save Our Rivers program.

Swim Basin: This project is located within the Indian River Lagoon Swim Basin and Jensen Beach to Jupiter Inlet Aquatic Preserve.

Right-of-Way Permit Status: A Right-of-Way permit is not required from the South Florida Water Management District. A Right-of Way, utility crossing, drainage, and driveway access permits may be required from the Florida Department of Transportation (FDOT) for the work within State Road A1A Right-of-Way.

Well Field Zone of Influence: This project is not located within the zone of influence of a wellfield.

Primary Issues Resolved: Water quality, marine turtles.

The Permittee is authorized to construct the activities described herein and as depicted in the attached stamped drawings

AUTHORIZATIONS

Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

Sovereignty Submerged Lands Authorization

As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the Department has determined the activity is not on submerged lands owned by the State of Florida. Therefore, your project is not subject to the requirements of Chapter 253, F.S., or Rule 18-21, F.A.C.

Federal Authorization

Your proposed activity as outlined on your application and attached drawings has been reviewed for compliance with the State Programmatic General Permit V and it has been determined to not be within the jurisdiction of the Corps. No further permitting for these activities is required by the Corps.

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State Programmatic General Permit", Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

Coastal Zone Management

Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification

This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

PERMIT

The activities described must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit as described herein.

SPECIFIC CONDITIONS- PROJECT FORMS & ATTACHMENTS

(1) DEP forms 62-330.310(3), 62-330.310(1); 62-330.310(2); 62-330.340(1); and 62-330.350(1), which may be downloaded at <http://www.dep.state.fl.us/water/wetlands/erp/forms.htm> become part of this permit. If the permittee does not have access to the Internet, please contact the Department at (561) 681-6600 to request the aforementioned forms and/or document(s).

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

(2) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. It shall be the responsibility of the permittee to contact this project's Compliance Project Manager, Jonathan Pempek by email Jonathan.Pempek@dep.state.fl.us, or by phone (561) 681-6601, to schedule the pre-construction conference. If the assigned Compliance Project Manager cannot be reached, the permittee shall contact the ERP Program Compliance/Enforcement section by phone (561) 681-6600, to schedule the pre-construction conference.

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SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

(3) The surface water management system shall be constructed and operated as depicted in the attached stamped drawings.

(4) This permit does not authorize any adverse impacts to wetlands or other surface waters.

(5) At all times during construction, the permittee shall use best management techniques for erosion and sedimentation control. Silt screens, or other sediment control measures shall be used throughout construction.

(6) No construction shall occur seaward of the Coastal Construction Control Line (CCCL) prior to obtaining all necessary approvals from the Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems

SPECIFIC CONDITIONS – OPERATION AND MAINTENANCE ACTIVITIES

(7) Sunset Beach Homeowner's Association, Inc. shall be responsible for the operation and maintenance of the stormwater management system. All drainage structures shall be routinely inspected to ensure adequate performance. A maintenance schedule shall be implemented to ensure that the stormwater management system is functioning as designed.

SPECIFIC CONDITIONS- PROTECTION OF TURTLES

(8) The Permittee shall obtain an approved marine turtle lighting plan from the FFWCC as an exterior lighting plan is not authorized under this permit approval. All permanent exterior lighting at the permitted facility shall comply with the most recent exterior turtle lighting plan as reviewed and approved by the Florida Fish and Wildlife Conservation Commission (FWC). The exterior lighting plan must be submitted to MarineTurtle@MyFWC.com, or as otherwise directed by FWC and shall follow the below guidelines:

- (a) All permanent exterior lighting shall be installed and maintained as depicted on the approved lighting schematic and cut sheets stamped "FISH AND WILDLIFE CONSERVATION COMMISSION APPROVED LIGHTING PLAN". No additional exterior lighting is authorized.
- (b) If any of the lights become visible from the beach or disorient nesting or hatchling sea turtles at any time, they must be modified such that they are no longer visible from the beach.
- (c) Tinted glass or film with a visible light transmittance value of 15 percent shall be applied to all glass windows and doors visible from the beach, glass walls seaward and lateral sides of the structure must be included.
- (d) All beach furniture, storage boxes, boats, and other equipment shall be removed from the beach at night during marine turtle nesting season, March 1 through October 31, and shall not be placed on the beach the following day until the marine turtle nesting survey has been complete and all nests on site have been marked.

- (e) No operation, transportation or storage of equipment or materials is authorized seaward of the dune crest or rigid coastal structure during the marine turtle nesting season. The marine turtle nesting season is May 1 through October 31 in all counties except Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward counties where leatherback turtle nesting occurs during the period March 1 through October 31.
- (f) No construction fences shall be erected within marine turtle nesting habitat.
- (g) The permittee shall arrange for a site inspection by Department and FWC staff within 30 days of completion of all exterior light installation and prior to issuance of a Certificate of Occupancy for the structure.

Additional information regarding marine turtle protection may be found on the FWC website <http://www.myfwc.com/wildlifehabitats/managed/sea-turtles/turtles-lights/>

GENERAL CONDITIONS FOR INDIVIDUAL PERMITS

The following general conditions are binding on all individual permits issued under chapter 62-330, F.A.C., except where the conditions are not applicable to the authorized activity, or where the conditions must be modified to accommodate project-specific conditions.

(1) All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

(2) A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

(3) Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

(4) At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C.,

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indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

(5) Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

(6) Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

- a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – “Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit” [Form 62-330.310(3)]; or
- b. For all other activities – “As-Built Certification and Request for Conversion to Operational Phase” [Form 62-330.310(1)].
- c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

(7) If the final operation and maintenance entity is a third party:

- a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
- b. Within 30 days of submittal of the as- built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

(8) The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

(9) This permit does not:

- a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
- b. Convey to the permittee or create in the permittee any interest in real property;
- c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
- d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

(10) Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S.

Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

(11) The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

(12) The permittee shall notify the Agency in writing:

- a. Immediately if any previously submitted information is discovered to be inaccurate; and
- b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

(13) Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

(14) If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

(15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

(16) The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

(17) This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

(18) A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time

period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

FLAWAC Review

The applicant, or any party within the meaning of sections 373.114(1)(a) or 373.4275, Florida Statutes, may also seek appellate review of this order before the Land and Water Adjudicatory Commission under section 373.114(1) or 373.4275, Florida Statutes. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

Any Party to this Order has the right to seek judicial review of the Order Pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of the Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Order is filed with the clerk of the Department.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Executed in Palm Beach County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Diane Pupa
Permitting Program Administrator
Southeast District

Attachments:

Project Drawings, 14 pages

As-built Certification and Request for Conversion to Operational Phase Form 62-330.310(1)*

Request for Transfer to the Perpetual Operation Entity Form 62-330.310(2)*

Request to Transfer Permit Form 62-330.340(1)*

Commencement Notice Form 62-330.350(1)*

*Can be downloaded at: <http://www.dep.state.fl.us/water/wetlands/erp/forms.htm>

Copies furnished to:

FDEP – Monica Sovacool, Jonathon Pempek, Indar Jagnarine, Sophie Dimitrova

USACOE- Palm Beach Gardens, Application-SP@usace.army.mil

Luke Davis - FFWCC, Luke.Davis@MyFWC.com

St. Lucie County Mosquito Control District, Jim David, JDavid@co.st-lucie.fl.us

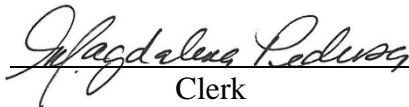
Kimley-Horn and Associates, Inc., Jennifer Simpkins, Jennifer.Simpkins@kimley-horn.com

Sunset Beach Investments, LLC, Cliff Kennedy, tmckennedy@bellsouth.net

Ladyko Design Group, LLC, Richard Ladyko - enginpod225@aol.com

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the
Florida Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged.


Clerk

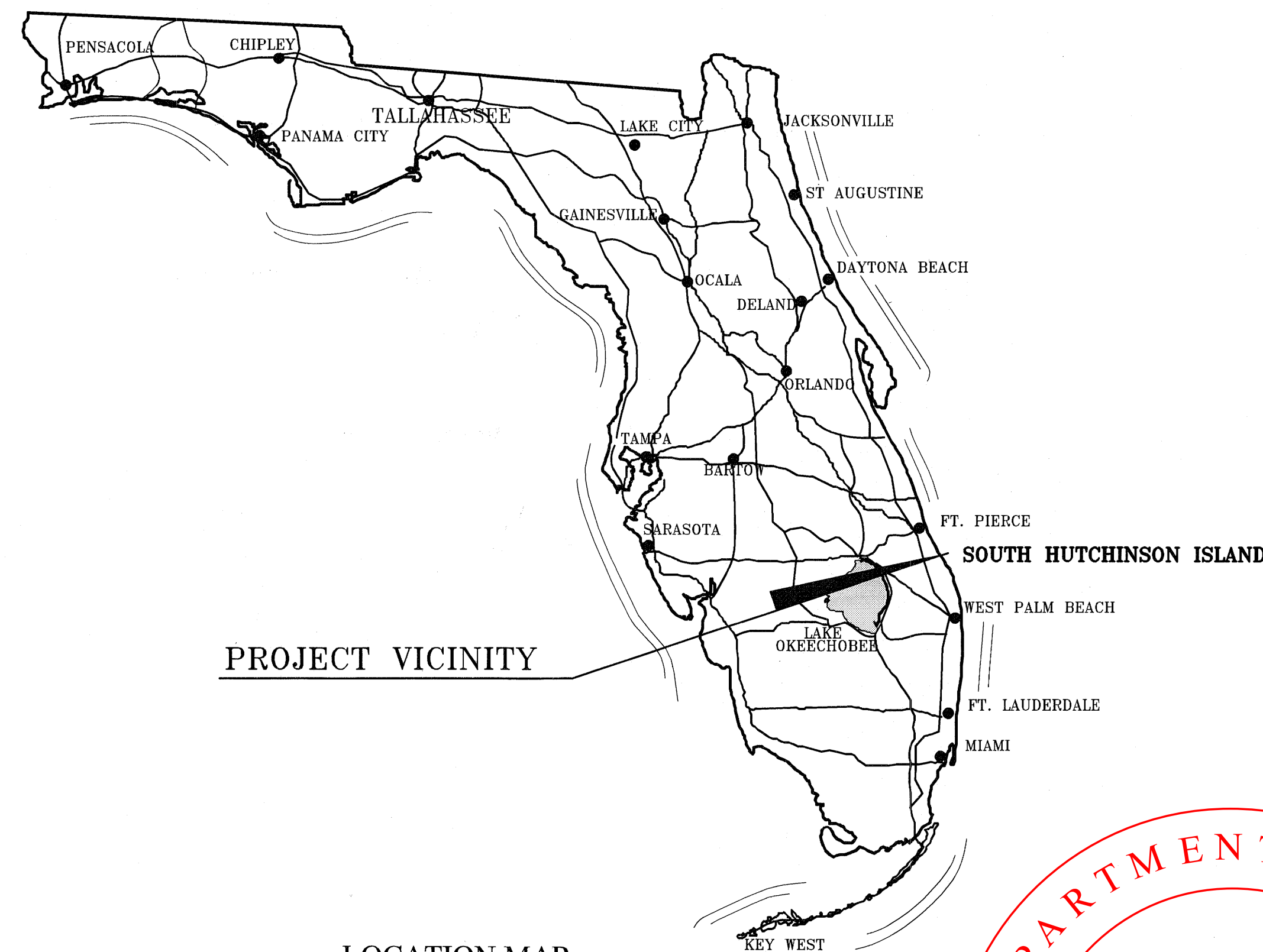
January 27, 2017
Date

CONSTRUCTION DRAWINGS FOR SUNSET BEACH P.U.D.

SOUTH HUTCHINSON ISLAND
ST. LUCIE COUNTY, FLORIDA



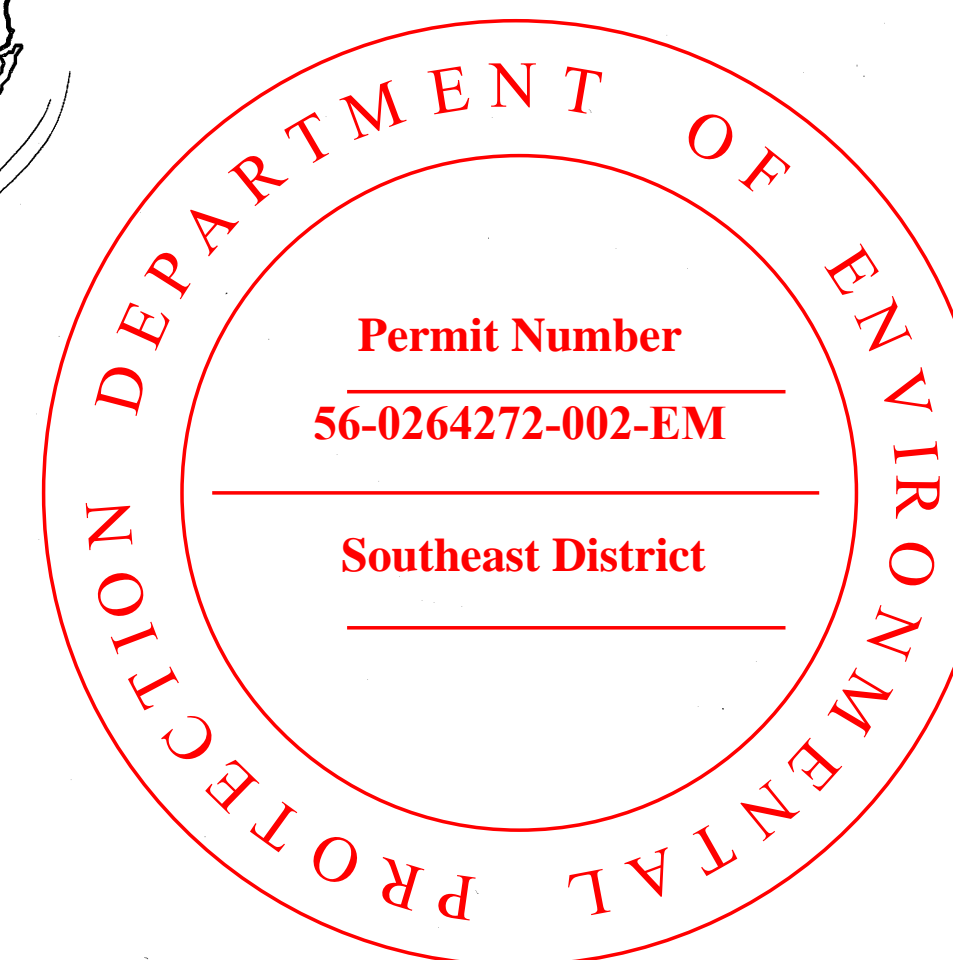
VICINITY MAP



LOCATION MAP

INDEX OF SHEETS

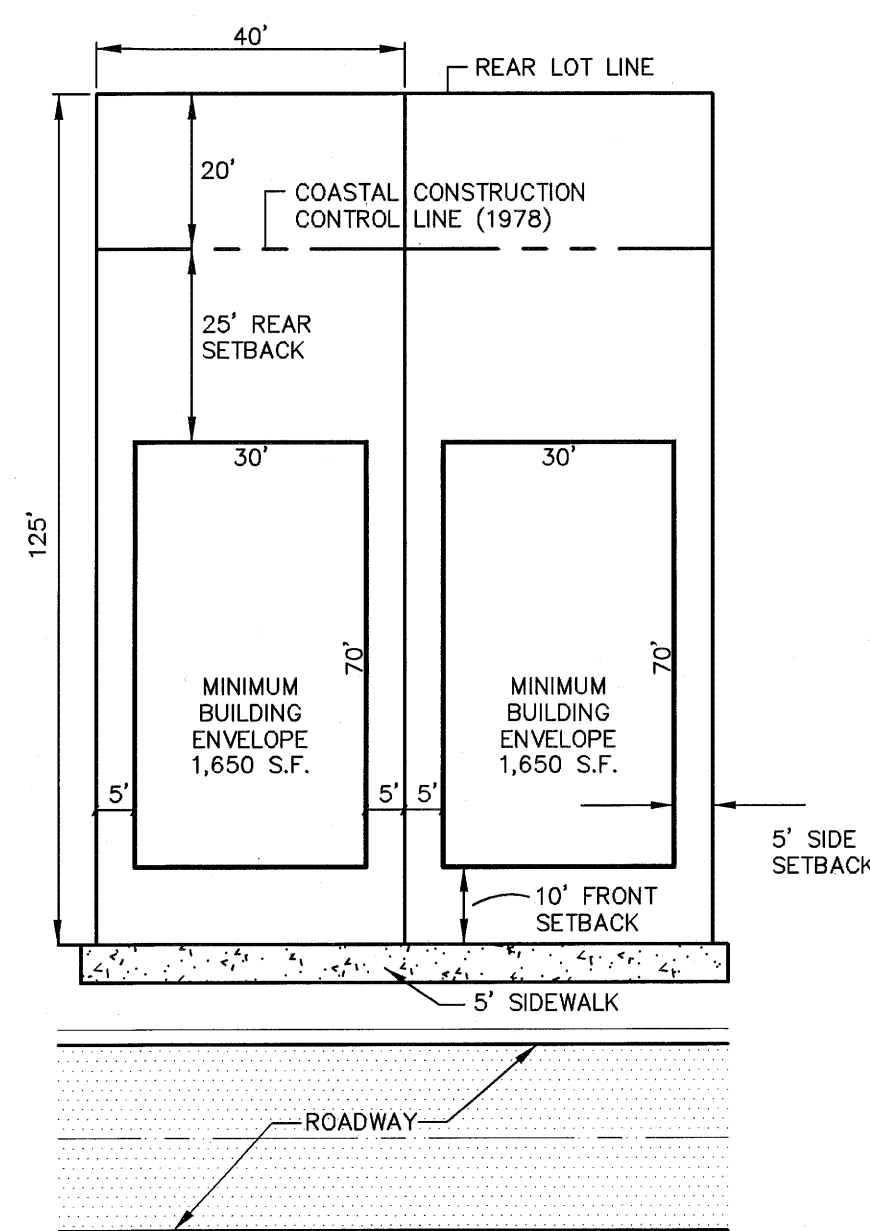
<u>SHEET No.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	MASTER SITE PLAN
3	MASTER DRAINAGE PLAN
4	SEDIMENTATION AND EROSION CONTROL PLAN
5-8	PAVING, GRADING & DRAINAGE PLANS
9	MASTER WATER & SEWER PLAN
10-13	WATER & SEWER PLANS
14-15	PAVING, GRADING & DRAINAGE DETAILS
16-17	WATER DISTRIBUTION DETAILS
18-19	SANITARY SEWER & REUSE WATER DETAILS
20-21	SANITARY SEWER PROFILE
22	LIFT STATION PLAN & DETAILS
23	STORM WATER POLLUTION PREVENTION PLAN
24	STORM WATER POLLUTION PREVENTION SPECIFICATIONS
25	SPECIFICATIONS
26	MITIGATION PLAN



RECEIVED
JAN 2 0 2017
WEST PALM BEACH

**Ladyko
Design
Group, LLC**

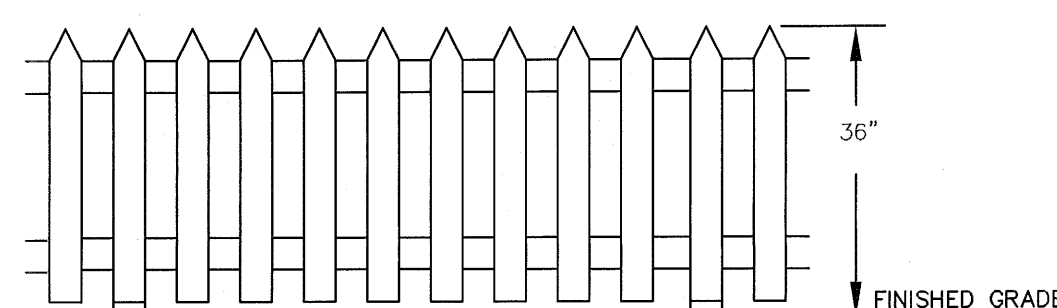
4400 BELLE GROVE DRIVE FORT PIERCE, FLORIDA 34981
PHONE 772-530-8261 FAX 772-464-1383
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION #28610



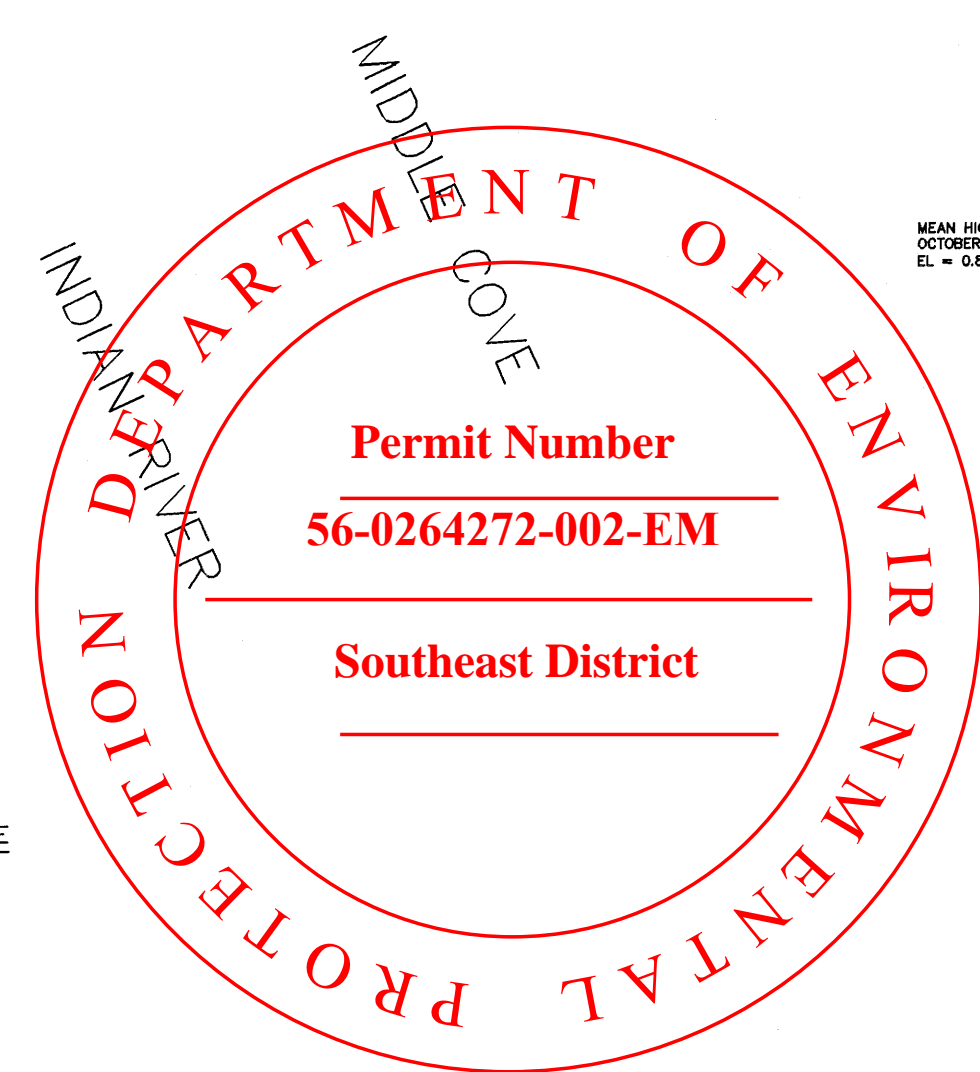
TYPICAL LOT DETAIL

PROPOSED BUILDING SETBACKS & LOT REQUIREMENTS

	Proposed
Minimum Lot Width	40'
Minimum Lot Size	5,000 s.f.
Minimum Road Frontage	40'
Max. Building Height	35'
Setbacks	
Front	10'
Side	5'
Rear	45'



DECORATIVE POOL FENCE DETAIL



UPLAND BUFFER CALCULATIONS

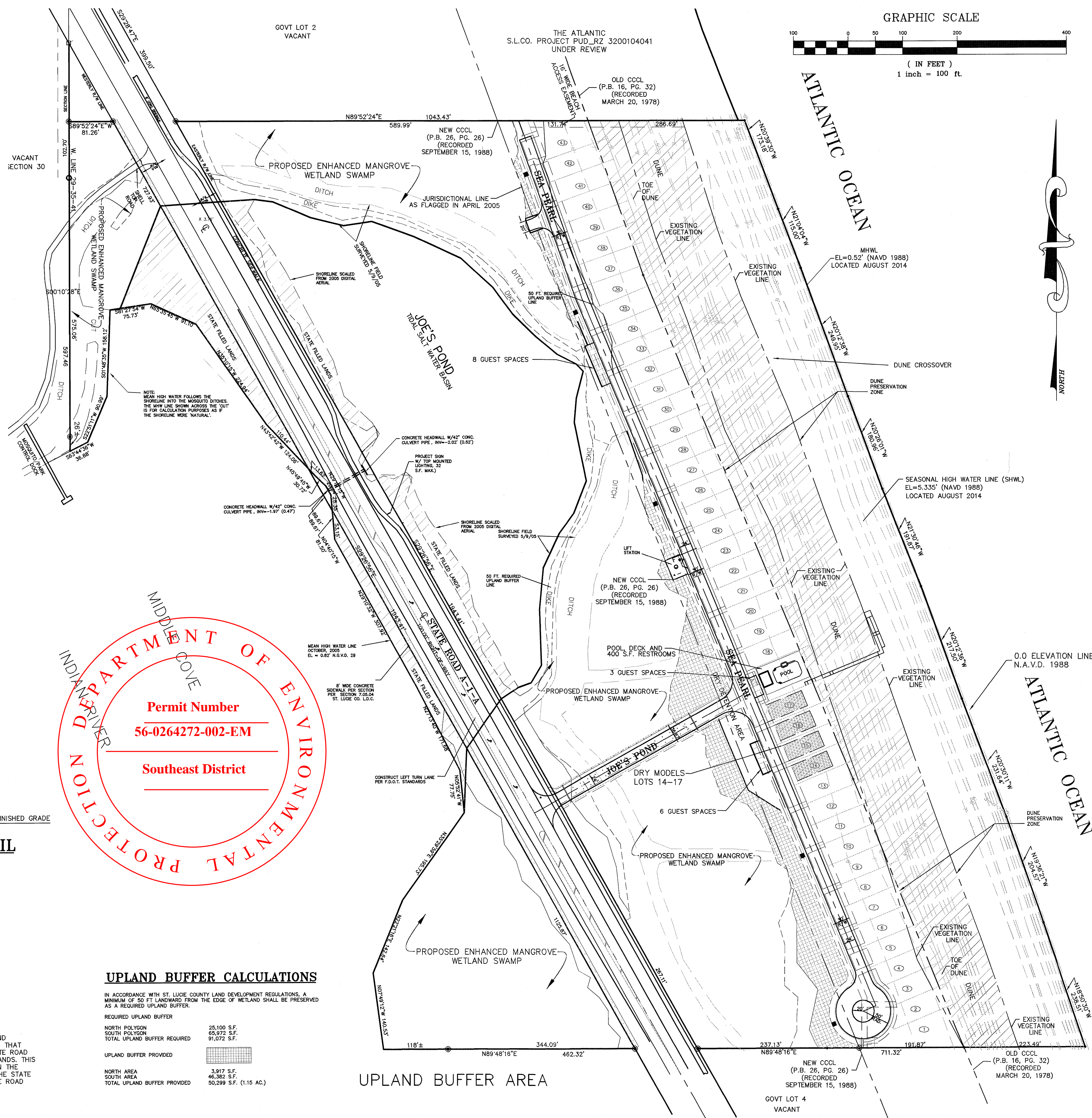
IN ACCORDANCE WITH ST. LUCIE COUNTY LAND DEVELOPMENT REGULATIONS, A MINIMUM OF 50 FT. LANDWARD FROM THE EDGE OF WETLAND SHALL BE PRESERVED AS A REQUIRED UPLAND BUFFER.

REQUIRED UPLAND BUFFER	
NORTH POLYGON	25,100 S.F.
SOUTH POLYGON	65,972 S.F.
TOTAL UPLAND BUFFER REQUIRED	91,072 S.F.
UPLAND BUFFER PROVIDED	
NORTH AREA	3,917 S.F.
SOUTH AREA	46,380 S.F.
TOTAL UPLAND BUFFER PROVIDED	50,297 S.F. (1.15 AC.)

STATE LANDS NOTES:

THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF SURVEYING AND MAPPING, HAS INDICATED THAT ANY OF THE LANDS THAT WERE FILLED WITHIN THAT AREA KNOWN AS MIDDLE COVE OR THE INDIAN RIVER TO FACILITATE THE STATE ROAD DEPARTMENT IN BUILDING THE STATE ROAD A-1-A, IS STILL STATE OWNED LANDS. THIS AREA IS SHOWN ON THE SURVEY BY CROSS HATCHING AND IS LYING BETWEEN THE MIDDLE COVE AND STATE ROAD A-1-A RIGHT OF WAY AND ALSO BETWEEN THE STATE ROAD RIGHT OF WAY AND THE INDIAN RIVER OR MIDDLE COVE WEST OF STATE ROAD A-1-A.

UPLAND BUFFER AREA



GENERAL NOTES

- PROJECT NAME: SUNSET BEACH P.U.D.
- GROSS PROJECT SIZE: 1,690,128 Sq. Ft., 38.80 Acres
- PROPOSED USE: 43 Single Family Units
- FUTURE LAND USE: Residential Urban (RU) 33.37 Acres
Residential Conservation (RC) 5.43 Acres
- ZONING: H.I.R.D. Hutchinson Island Residential District
- OVERLAY ZONING DISTRICT: Overlay Zone B
- PARCEL IDENTIFICATION NO.: 2529-233-0002-000/0
- FLOOD ZONE: F.I.R.M. Panel No. 1211100194 G
The Property lies in Flood Zones: VE(9), AE(7), AE(8), AE(9), AE(10), VE(12) AND VE(14).
- PARCEL BREAKDOWN

Area	Acres
Area West of S.R. A-1-A (RC)	5.43
Area East of S.R. A-1-A (RU)	33.37
Area Total	38.80
- UTILITIES

Water Service:	Fort Pierce Utilities Authority
Sewage Treatment:	St. Lucie County Utilities
Irrigation Reuse:	St. Lucie County Utilities
- STORM DRAINAGE

The storm water management system will consist of an on-site dry detention consisting of a combination of exfiltration trench and dry ponds providing water quality and storm attenuation. Discharge will be to the wetland preservation area adjacent to the property with ultimate discharge to the Indian River (Intracoastal Waterway) with appropriate permitting with the Florida Department of Environmental Protection and the A.C.O.E.
- PROPOSED OWNERSHIP

The single family units will be conveyed via fee simple ownership in accordance with a proposed Record Plat. Common areas will be dedicated to the Homeowners Association along with roadways, drainage areas and wetland preservation and primary dune areas.
- LEGAL DESCRIPTION:

Government Lot 2, less the north 938.84 ft. and less the right-of-way for S.R. A-1-A, and Government Lot 3, less the right-of-way for S.R. A-1-A, Section 29, Township 35S, Range 41E, St. Lucie County, Florida.
- EXISTING PROJECT LAND COVERAGE:

The following table summarizes the existing project

	Acres	% of Net Site
Beach & Dune Area (1)	10.35	26.68
Jurisdictional Wetlands and Pond	19.11	49.23
Upland Areas	9.34	24.07
	38.80	100.00

(1) Area from OLD (1978) CCCL Iline to MHW Line
- LAND USE BREAKDOWN: THIS APPLICATION

	Acres	Percentage of Site
Building Lots	5.07	13.06
Pavement & Walks	1.72	4.43
Dry Detention	0.50	1.29
Wetlands	12.81	33.02
Joe's Pond	6.30	16.24
Pool, Deck & Cabana Area	0.19	0.49
Beach & Dune Area	10.35	26.68
Common & Open Space Area	1.86	4.79
TOTAL	38.80	100.00
- PARKING PROVIDED:

Single-Family Units will have a minimum of two garage spaces provided per unit. Two spaces per unit will be provided immediately in front of the garage spaces.

	Spaces
Required Parking (43 units x 2 spaces/unit)	86 Spaces
Total Required	86 Spaces
Total Provided	86 Spaces
Garaged Parking (43 units x 2 spaces/unit)	86 Spaces
Parking at Recreational Area	3 Spaces (1 Handicapped)
Guest Parking	14 Spaces
Total Provided	103 Spaces (1 Handicapped)

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -

UPDATE MASTER SITE PLAN	BY	DATE
REVISE BRIDGE LOCATION	RML	9/07/16
	RML	12/15/16

COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 2800

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
engnpod225@aol.com

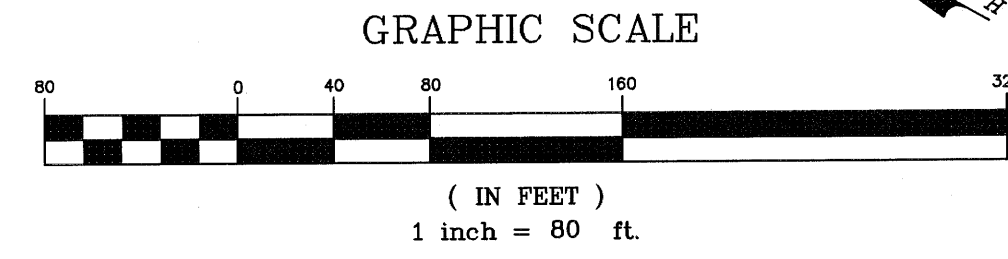
	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	.
APPROVED		

SUNSET BEACH MASTER SITE PLAN

DATE: 08/22/14
HORIZ. SCALE: 1" = 100'
VERT. SCALE: NONE
JOB No. 14-009
SHEET 2 OF 26

ATLANTIC OCEAN

ATLANTIC OCEAN



LEGEND

- AREA OF EXISTING MANGROVE SWAMP
- AREA OF UPLAND BUFFER PROVIDED
- AREA OF DUNE PRESERVATION
- AREA OF PROPOSED PAVEMENT
- AREA OF PROPOSED CONCRETE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING WATER MAIN
- EXISTING IRRIGATION MAIN
- EXISTING SANITARY FORCE MAIN
- EXISTING CONTOUR
- EXISTING ELEVATION

DRAINAGE BASIN #1
1.85 ACRES

DRAINAGE BASIN #2
5.06 ACRES

DRAINAGE BASIN #3
0.24 ACRES

SHEET 5

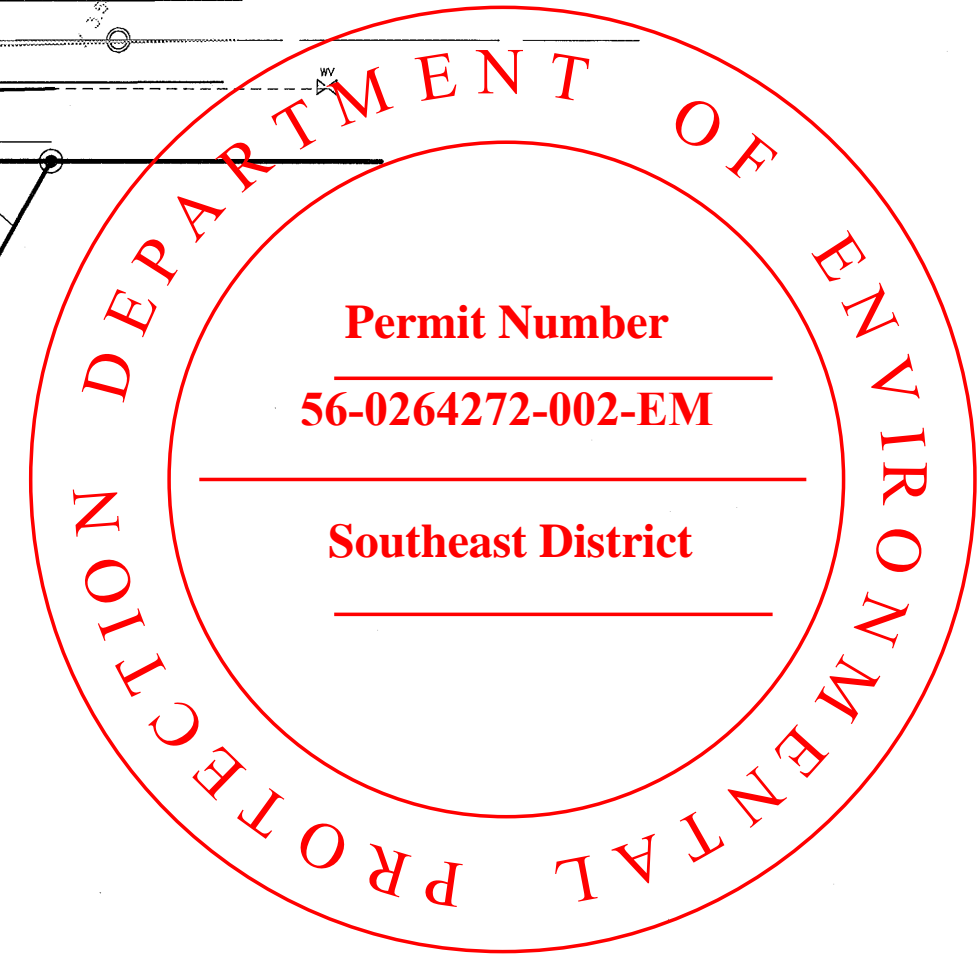
SHEET 6

SHEET 8

SHEET 7

STATE ROAD A-1-A

MIDDLE COVE
INDIAN RIVER



ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
ADD A.C.O.E. JURISDICTIONAL LINE		RML	3/01/16
UPDATE BASE MAP		RML	9/07/16
ADD 36" R.C.P. MOSQUITO CONTROL DISTRICT CULVERT		RML	9/16/16
REVISE BRIDGE LOCATION		RML	12/15/16

COMPUTER FILE REF.	FIELD BK./PG.

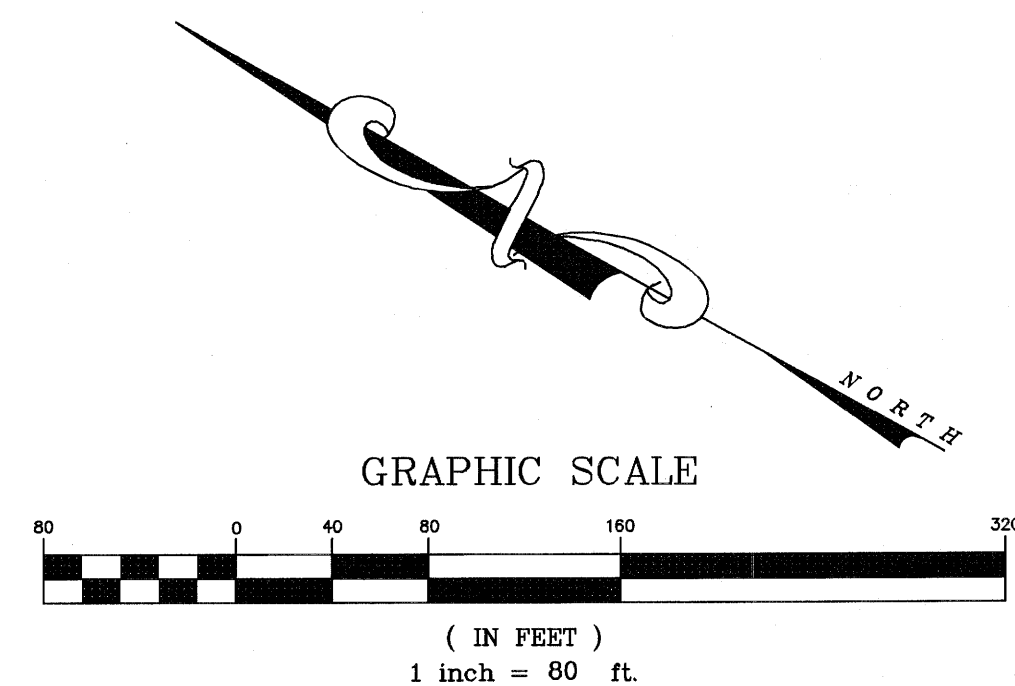
Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 2860

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
engrnpod225@aol.com

DESIGNED	BY	DATE
RML	RML	08/22/14
CALCS.	RML	08/22/14
DRAWN	RML	08/22/14
DETAILED	RML	
CHECKED	RML	
APPROVED	RML	

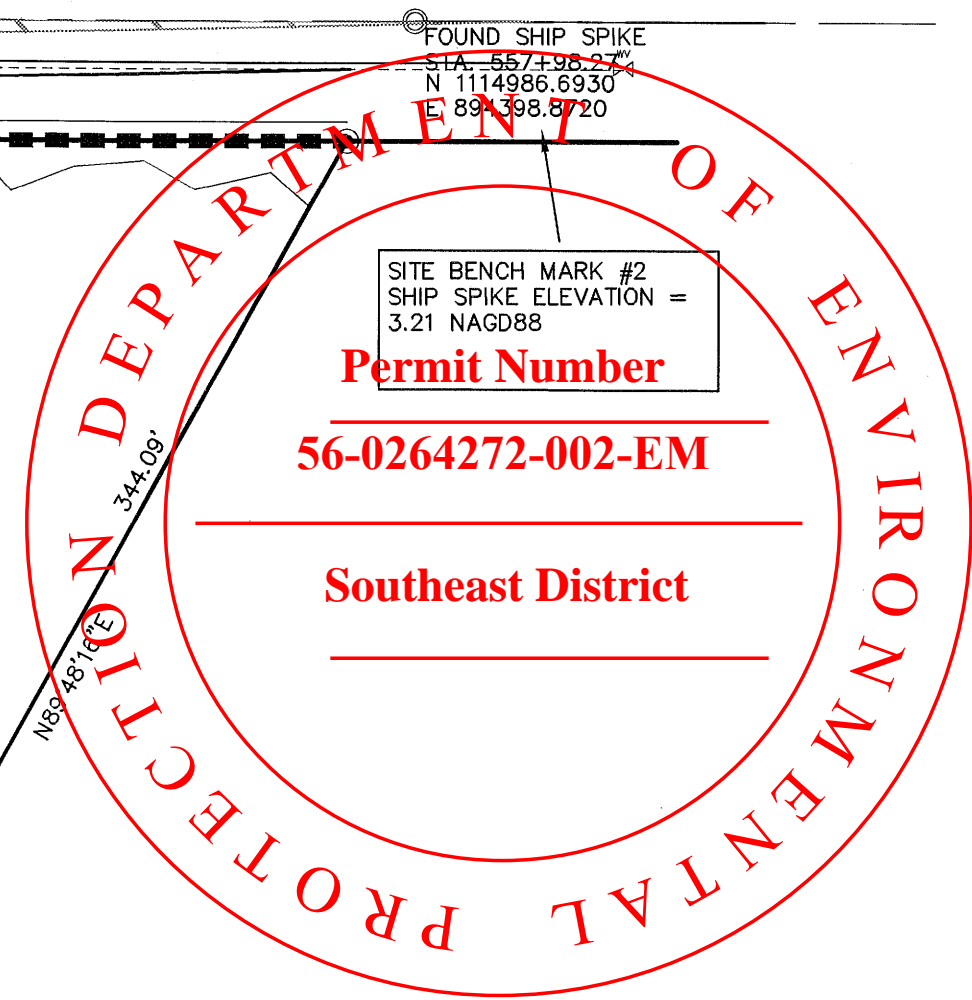
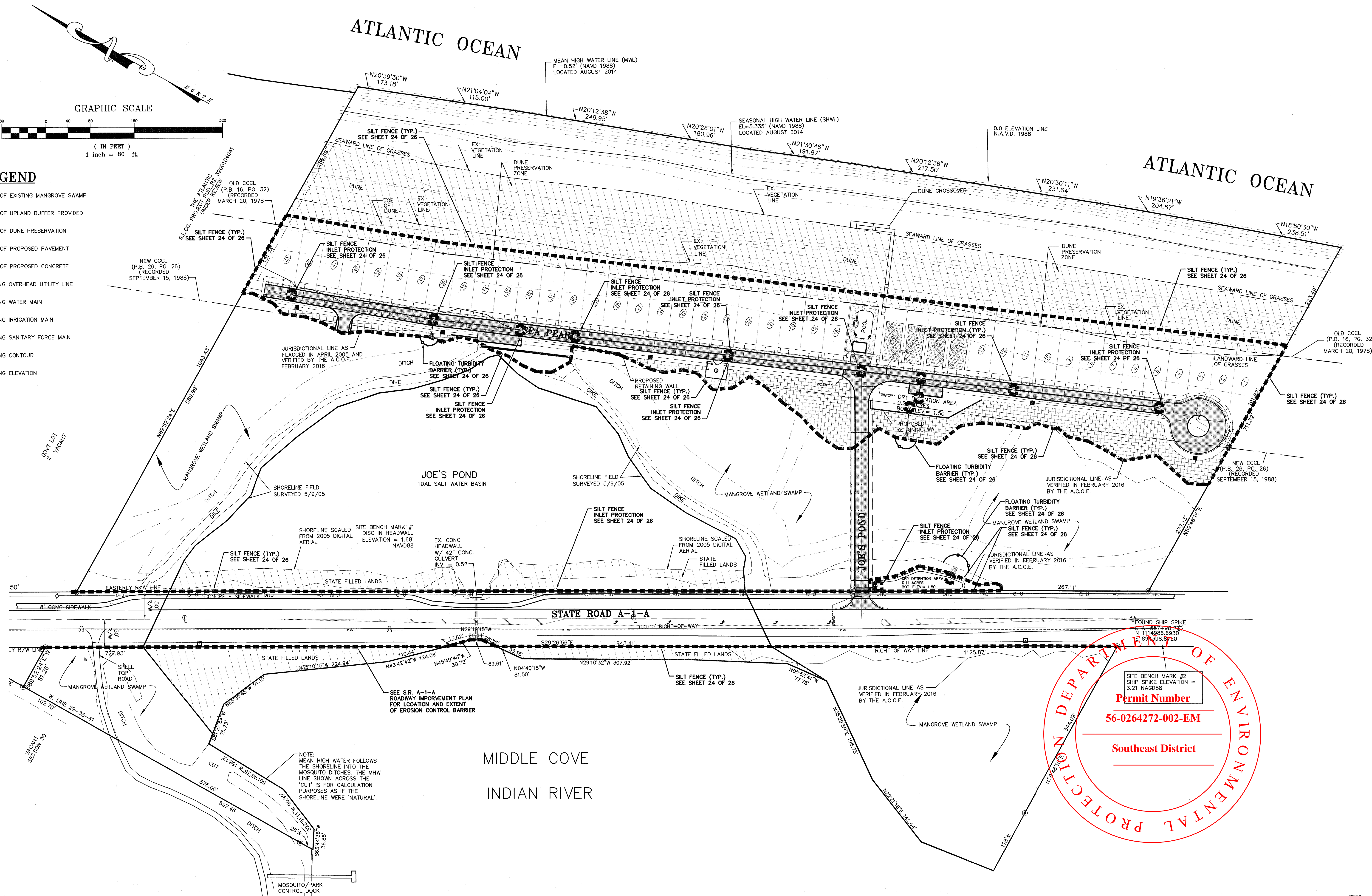
SUNSET BEACH
MASTER DRAINAGE PLAN

DATE:	08/22/14
HORIZ. SCALE:	1" = 80'
VERT. SCALE:	NONE
JOB No.	14-009
SHEET	3 OF 26



LEGEND

- AREA OF EXISTING MANGROVE SWAMP
- AREA OF UPLAND BUFFER PROVIDED
- AREA OF DUNE PRESERVATION
- AREA OF PROPOSED PAVEMENT
- AREA OF PROPOSED CONCRETE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING WATER MAIN
- EXISTING IRRIGATION MAIN
- EXISTING SANITARY FORCE MAIN
- EXISTING CONTOUR
- EXISTING ELEVATION



ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
UPDATE BASE MAP		RML	9/07/16
REVISIONS PER F.D.E.P.		RML	11/07/16
REVISIONS BRIDGE LOCATION		RML	12/15/17

COMPUTER FILE REF.	FIELD BK./PG.

Ladyko
Design
Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 28610

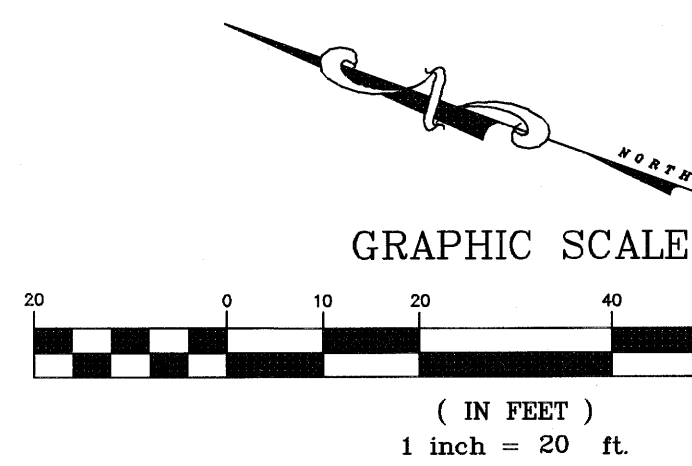
4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
enginpod225@aol.com

DESIGNED	BY	DATE
CALCS.	RML	08/22/14
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH

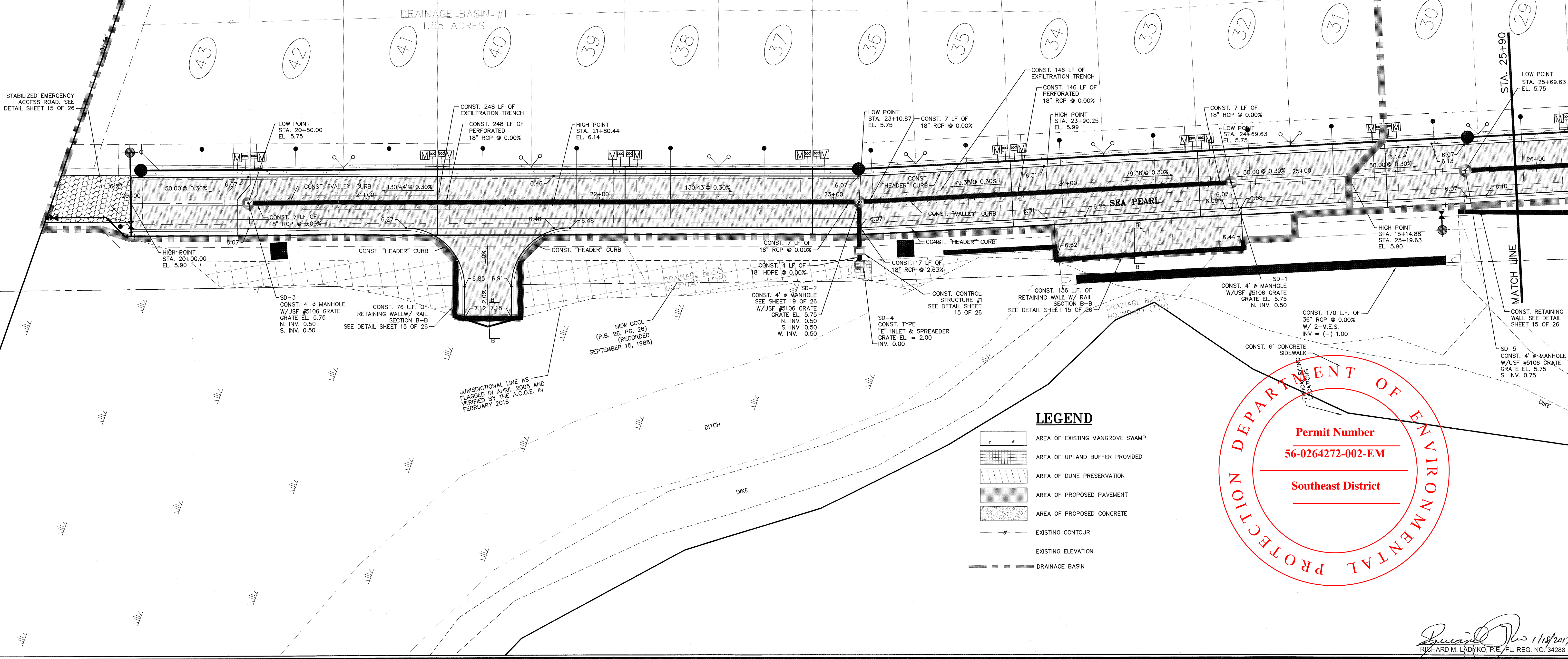
SEDIMENTATION AND EROSION CONTROL PLAN

DATE: 08/22/14
HORIZ. SCALE: 1"= 80'
VERT. SCALE: NONE
JOB No. 14-009
SHEET 4 OF 26



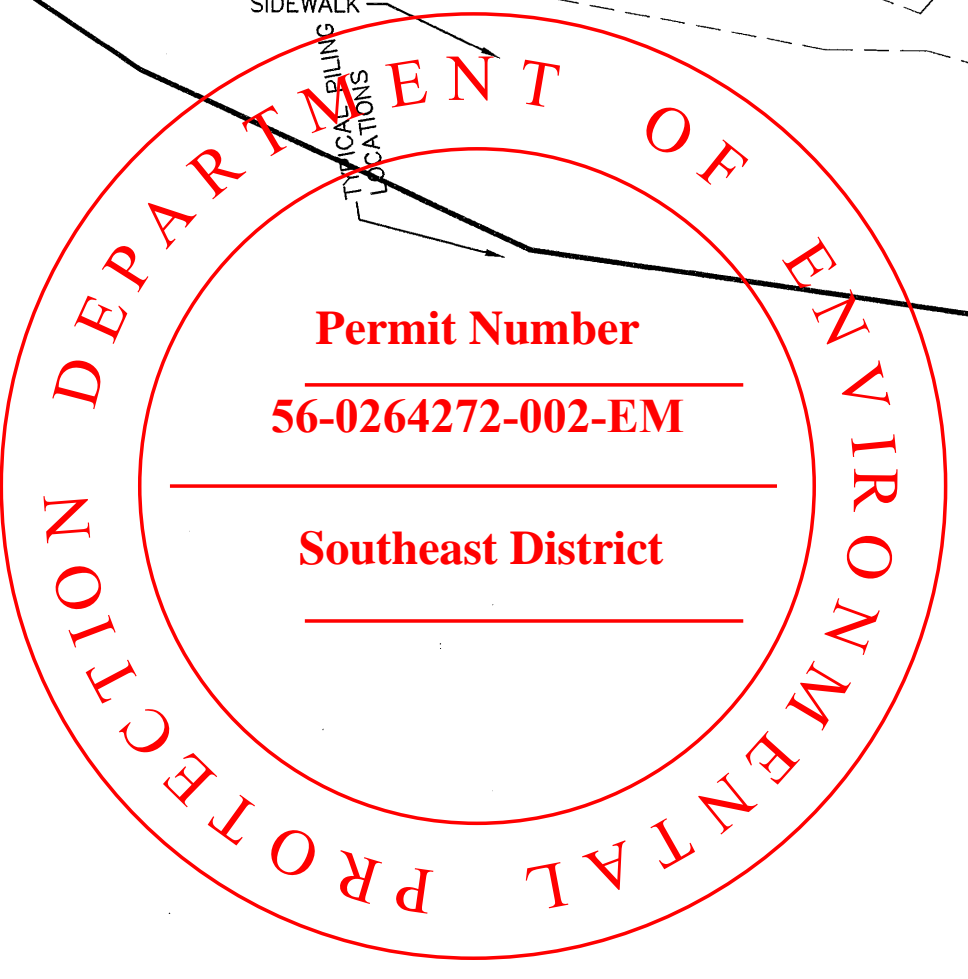
OLD COCL
(P.B. 16, PG. 32)
(RECORDED
MARCH 20, 1978)

STABILIZED EMERGENCY
ACCESS ROAD. SEE
DETAIL SHEET 15 OF 26



LEGEND

[Pattern]	AREA OF EXISTING MANGROVE SWAMP
[Pattern]	AREA OF UPLAND BUFFER PROVIDED
[Pattern]	AREA OF DUNE PRESERVATION
[Pattern]	AREA OF PROPOSED PAVEMENT
[Pattern]	AREA OF PROPOSED CONCRETE
[Line]	EXISTING CONTOUR
[Line]	EXISTING ELEVATION
[Line]	DRAINAGE BASIN



ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
UPDATE BASE MAP		RML	9/07/16
ADD 36" R.C.P. MOSQUITO DISTRICT CULVERT		RML	9/16/16
REVISE BRIDGE LOCATION		RML	12/15/16

COMPUTER FILE REF.	FIELD BK./PG.

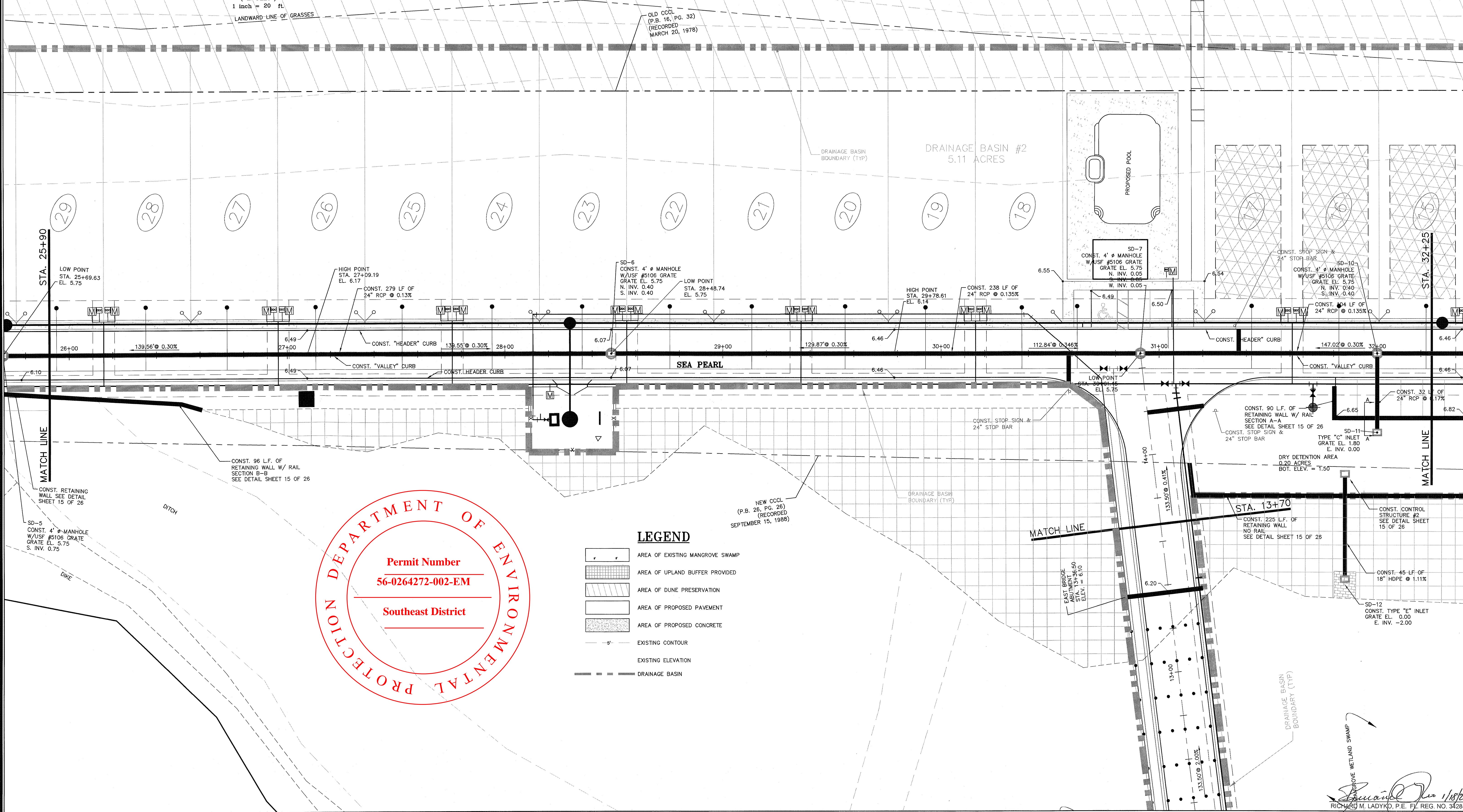
Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 28600

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
eng@pod2259@aol.com

	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH
PAVING, GRADING & DRAINAGE PLAN

DATE:	08/22/14
HORIZ. SCALE:	1" = 20'
VERT. SCALE:	NONE
JOB No.	14-009
SHEET	5 OF 26



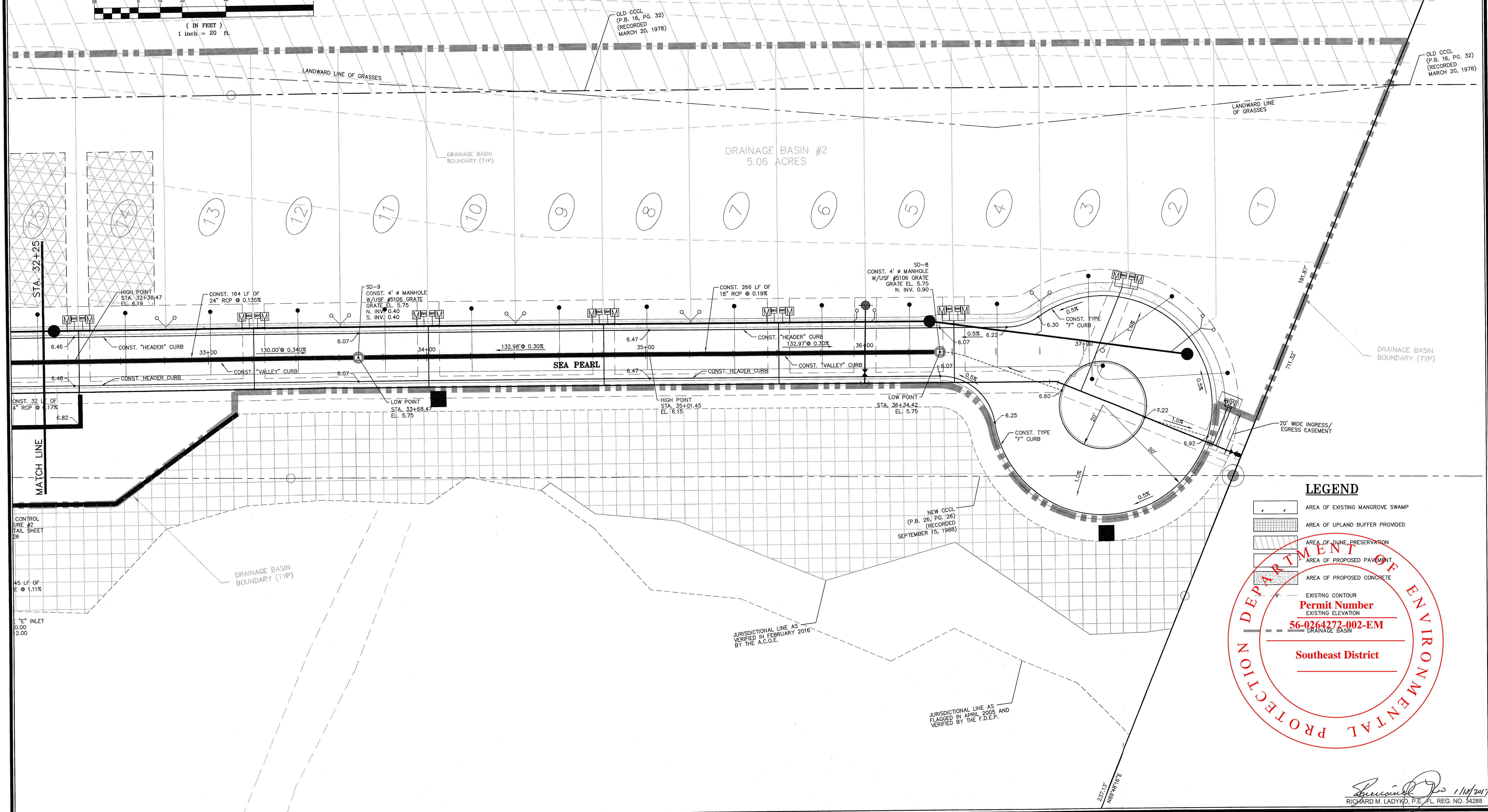
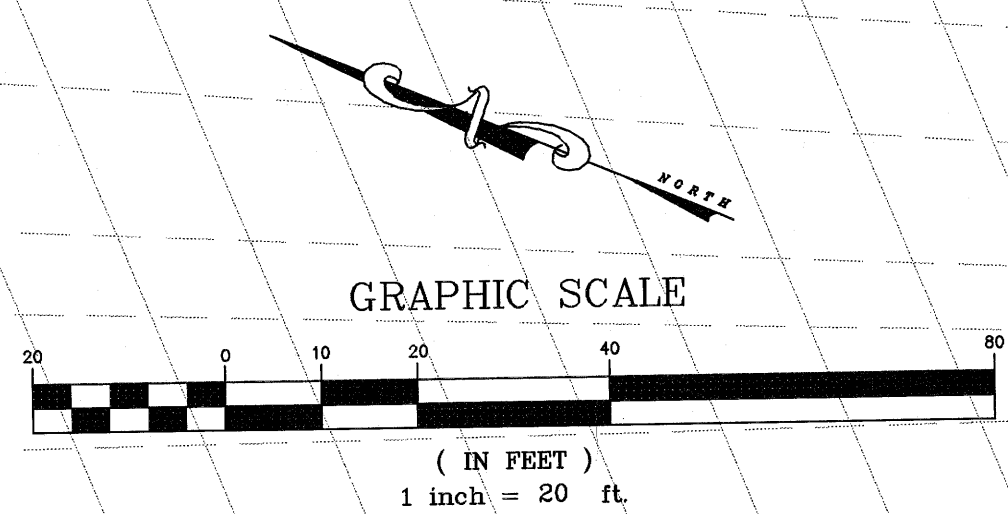
LEGEND

- AREA OF EXISTING MANGROVE SWAMP
- AREA OF UPLAND BUFFER PROVIDED
- AREA OF DUNE PRESERVATION
- AREA OF PROPOSED PAVEMENT
- AREA OF PROPOSED CONCRETE
- EXISTING CONTOUR
- EXISTING ELEVATION
- DRAINAGE BASIN

COMPUTER FILE REF.	FIELD BK./PG.

	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	.
APPROVED		

DATE: 08/22/14
HORIZ. SCALE: 1"= 20'
VERT. SCALE: NONE
JOB No. 14-009
SHEET 6 OF 26



LEGEND

- AREA OF EXISTING MANGROVE SWAMP
- AREA OF UPLAND BUFFER PROVIDED
- AREA OF DUNE PRESERVATION
- AREA OF PROPOSED PAVEMENT
- AREA OF PROPOSED CONCRETE
- EXISTING CONTOUR
- Permit Number**
EXISTING ELEVATION
56-0264272-002-EM
DRAINAGE BASIN
- Southeast District**

PROTECTION DEPARTMENT OF ENVIRONMENTAL

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
UPDATE BASE MAP		RML	9/07/16
REVISE BRIDGE LOCATION		RML	12/15/16

COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 2600

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
enginfo@ladyko.com

	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH
PAVING, GRADING & DRAINAGE PLAN

DATE:	08/22/14
HORIZ. SCALE:	1" = 20'
VERT. SCALE:	NONE
JOB No.	14-009
SHEET	7 OF 26

REVISED
(P.B. 28)
(RECORDED
SEPTEMBER 15, 1998)

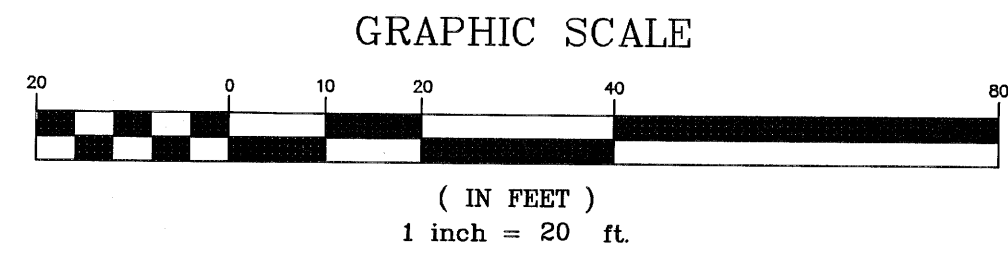
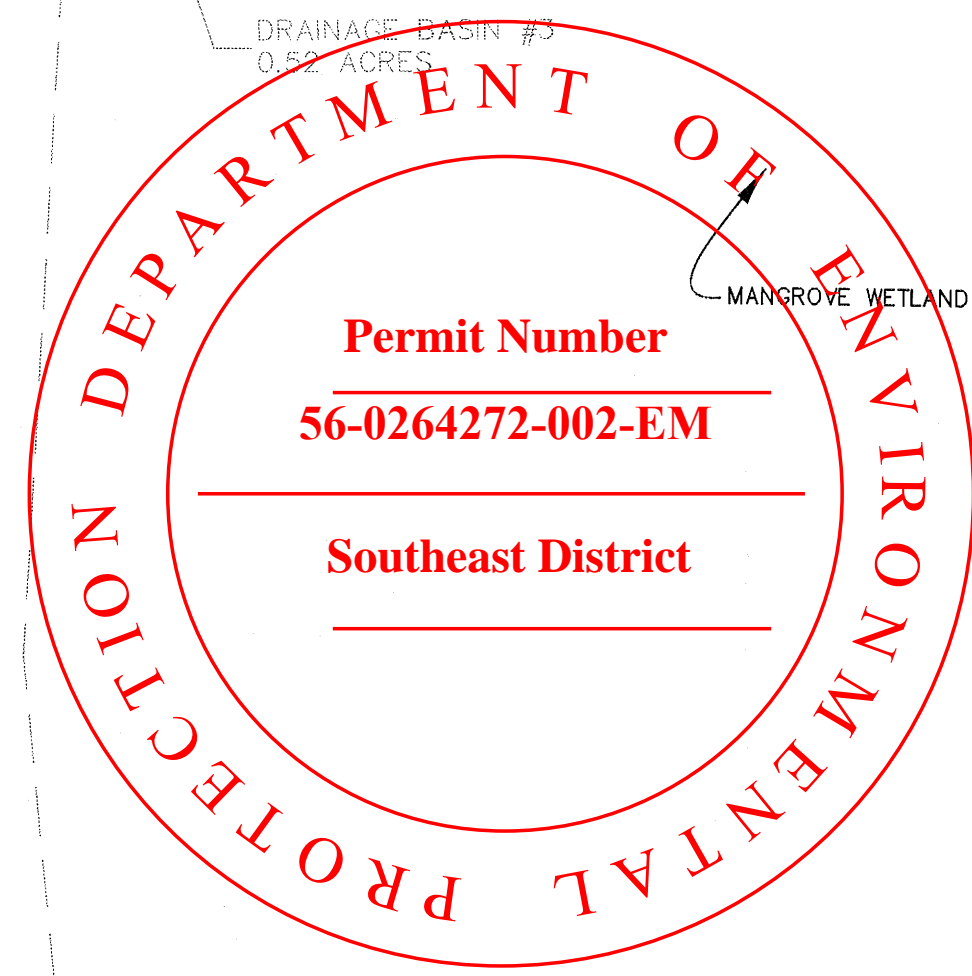
DRAINAGE BASIN
BOUNDARY (TYP)

MATCH LINE

STA. 13+70

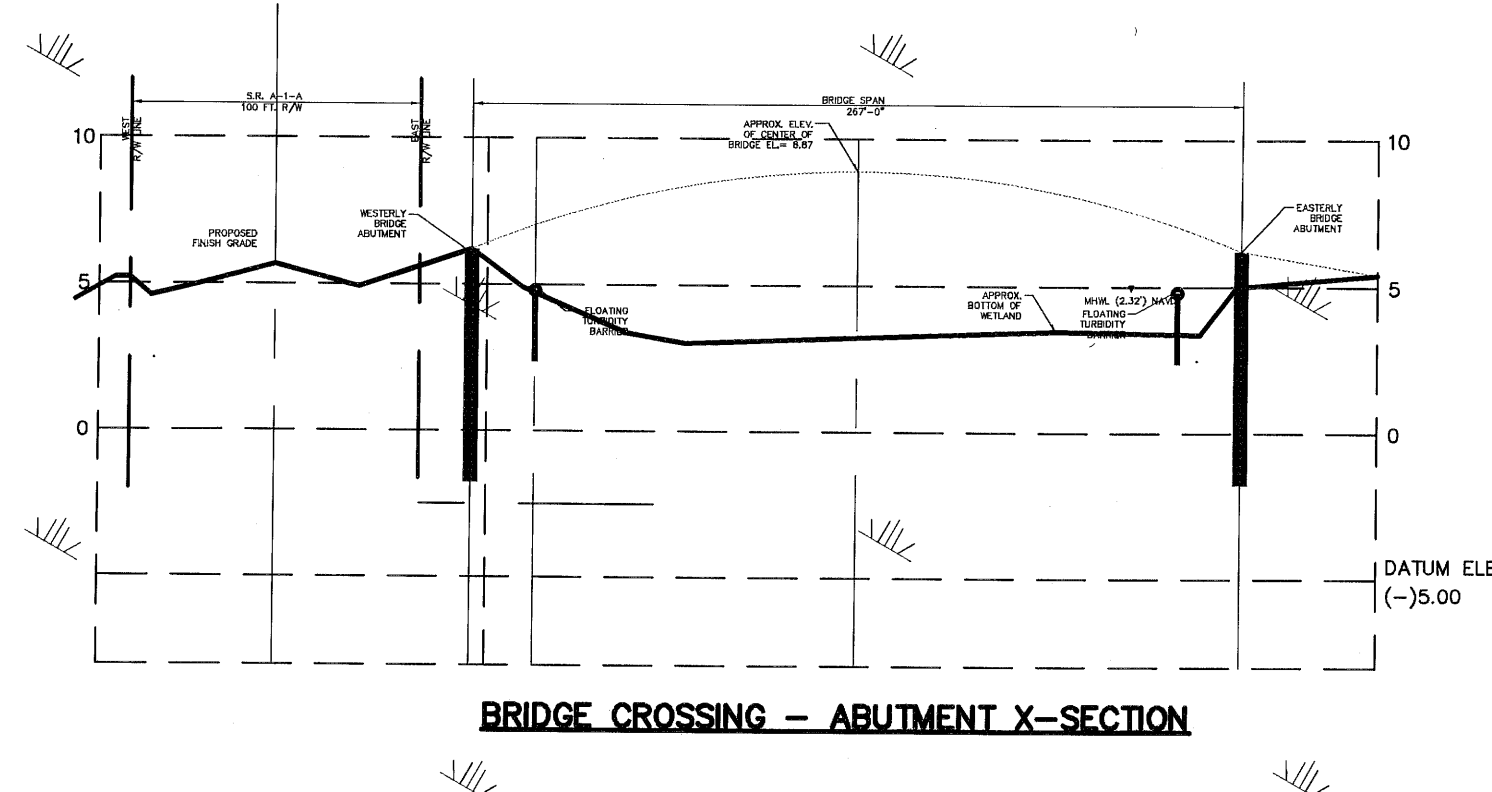
MATCH LINE

DATE: 08/22/14
HORIZ. SCALE: 1" = 20'
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JOB No. 14-009
SHEET 8 OF 26

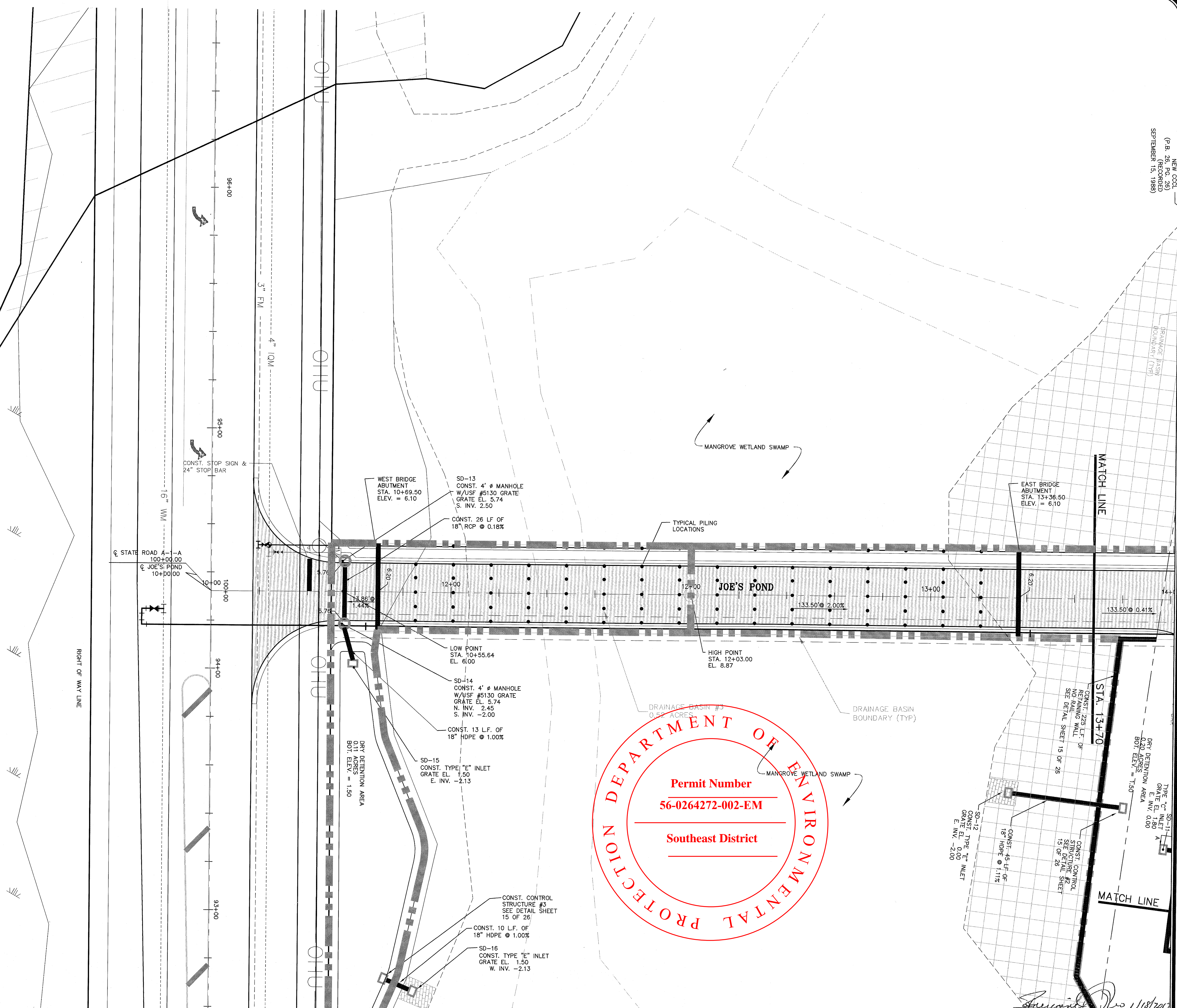


LEGEND

- AREA OF EXISTING MANGROVE SWAMP
- AREA OF UPLAND BUFFER PROVIDED
- AREA OF DUNE PRESERVATION
- AREA OF PROPOSED PAVEMENT
- AREA OF PROPOSED CONCRETE
- OHU - EXISTING OVERHEAD UTILITY LINE
- 16" WM - EXISTING WATER MAIN
- 4" ICM - EXISTING IRRIGATION MAIN
- 3" FM - EXISTING SANITARY FORCE MAIN
- 5' - EXISTING CONTOUR
- EXISTING ELEVATION
- DRAINAGE BASIN



BRIDGE CROSSING - ABUTMENT X-SECTION



ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
REVISE BRIDGE LOCATION		RML	12/15/16

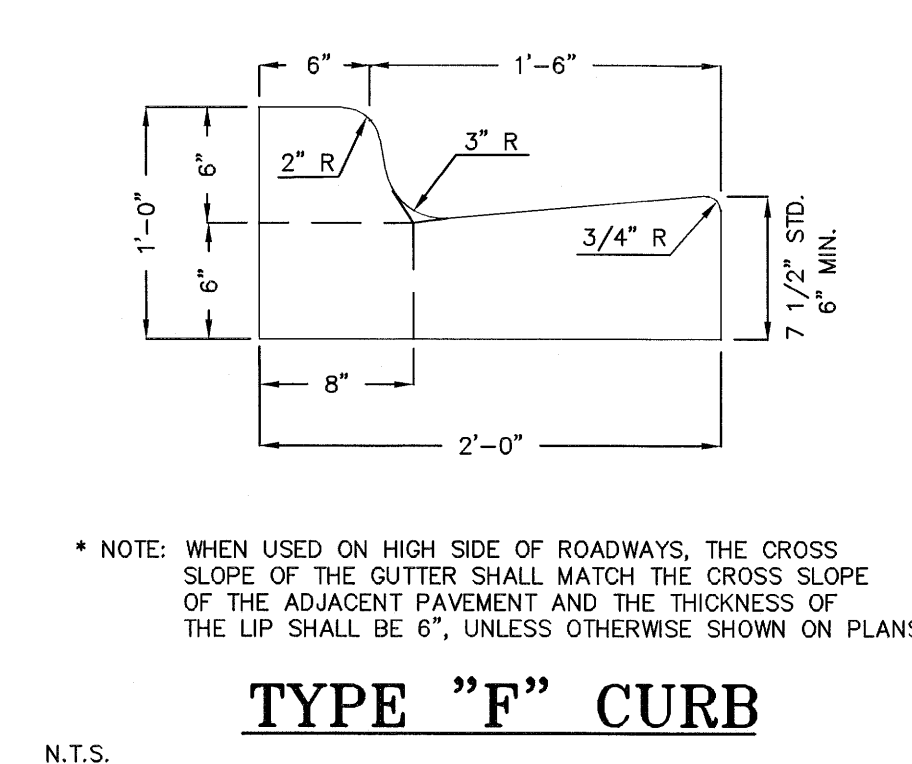
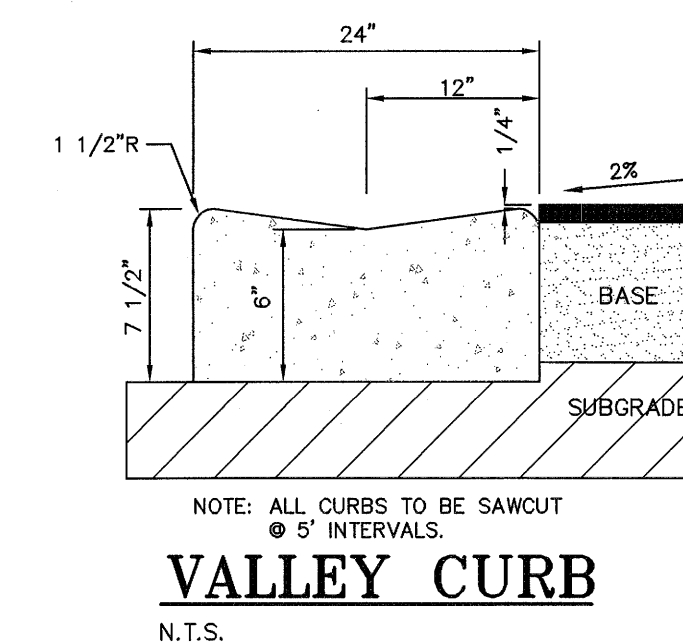
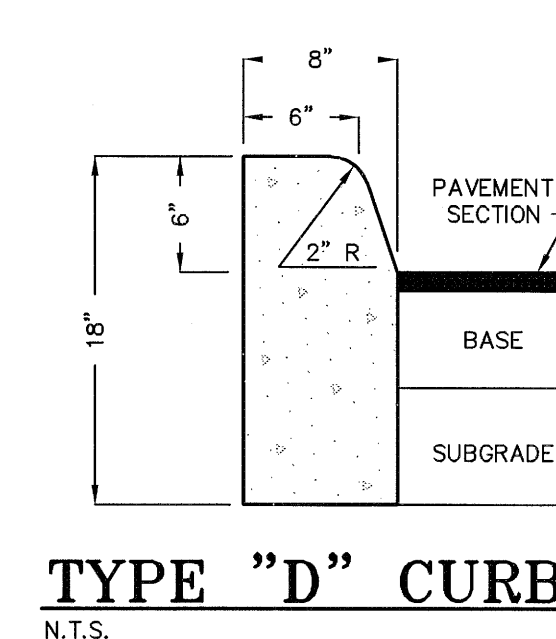
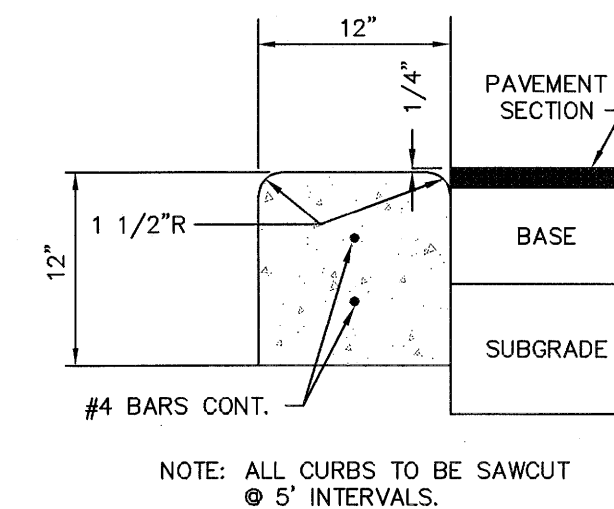
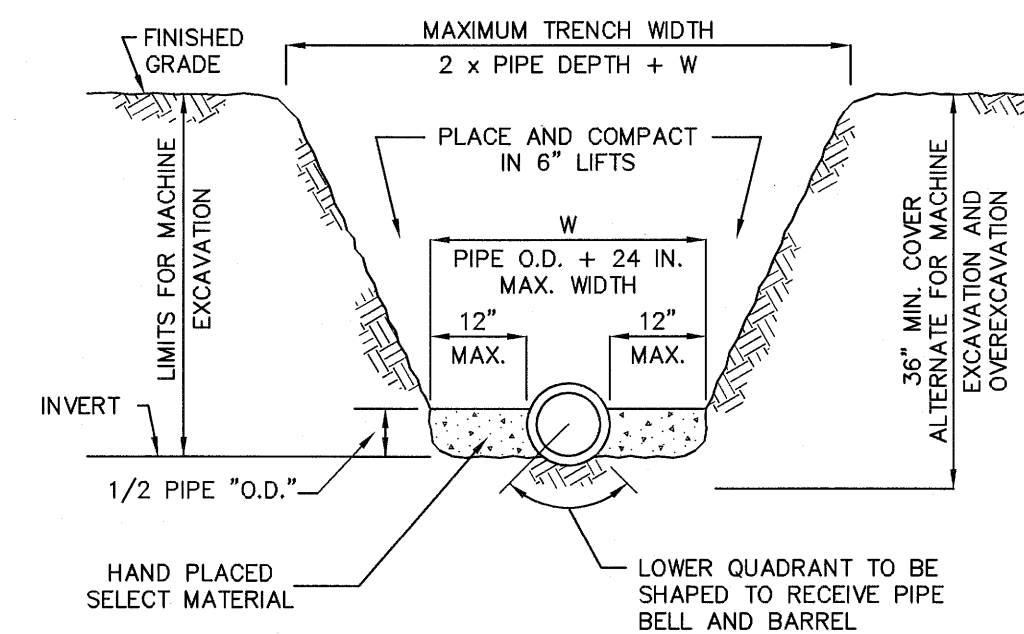
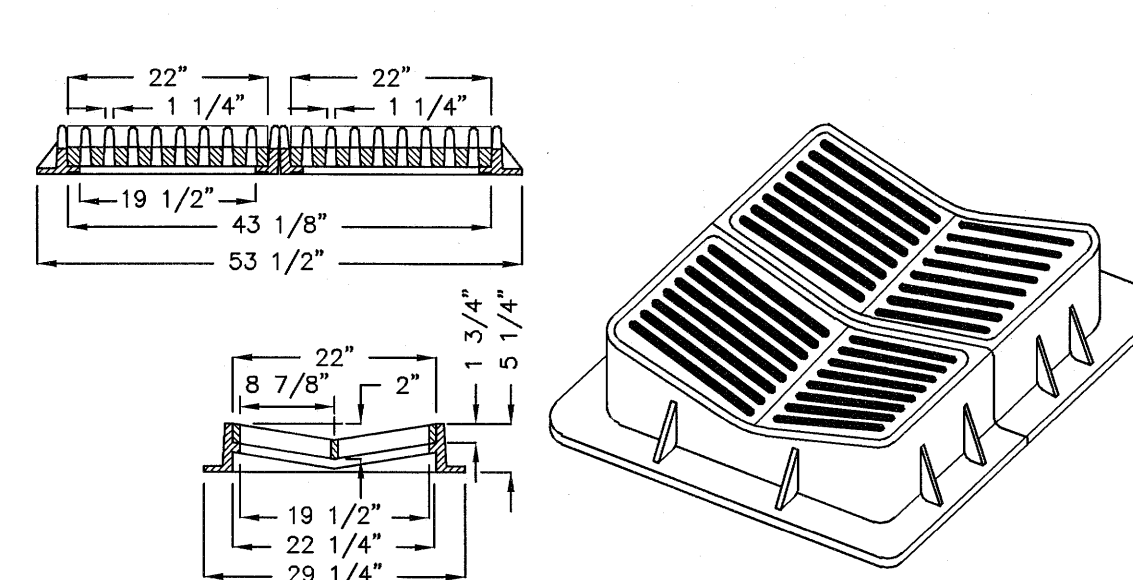
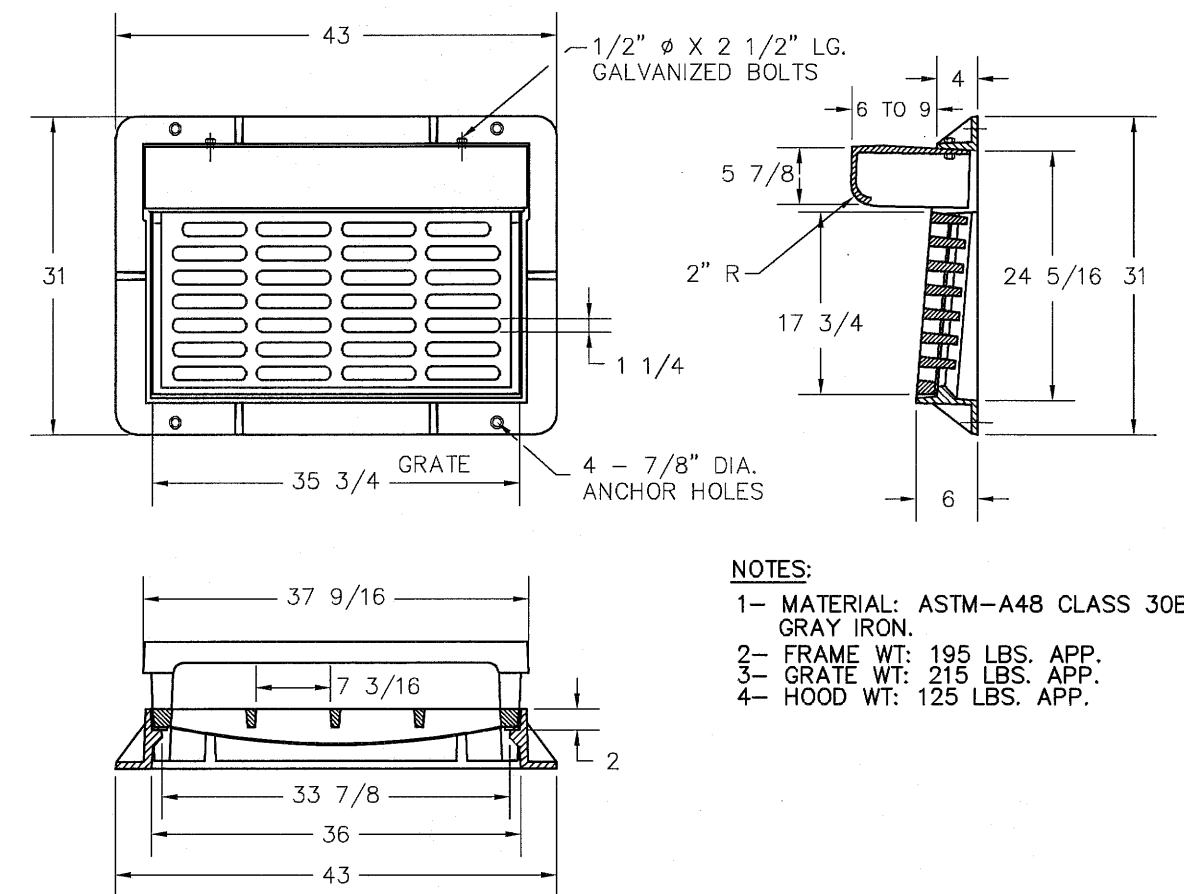
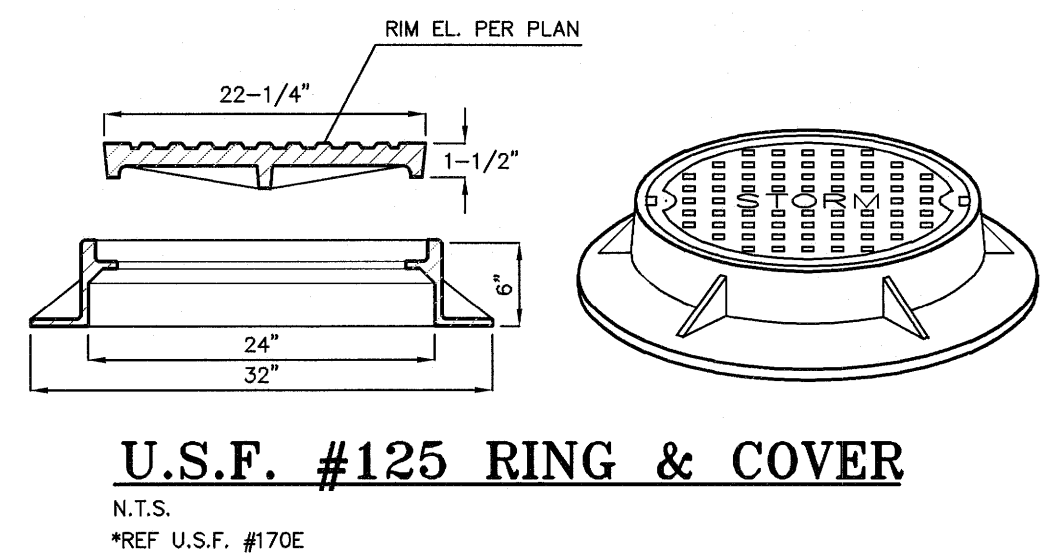
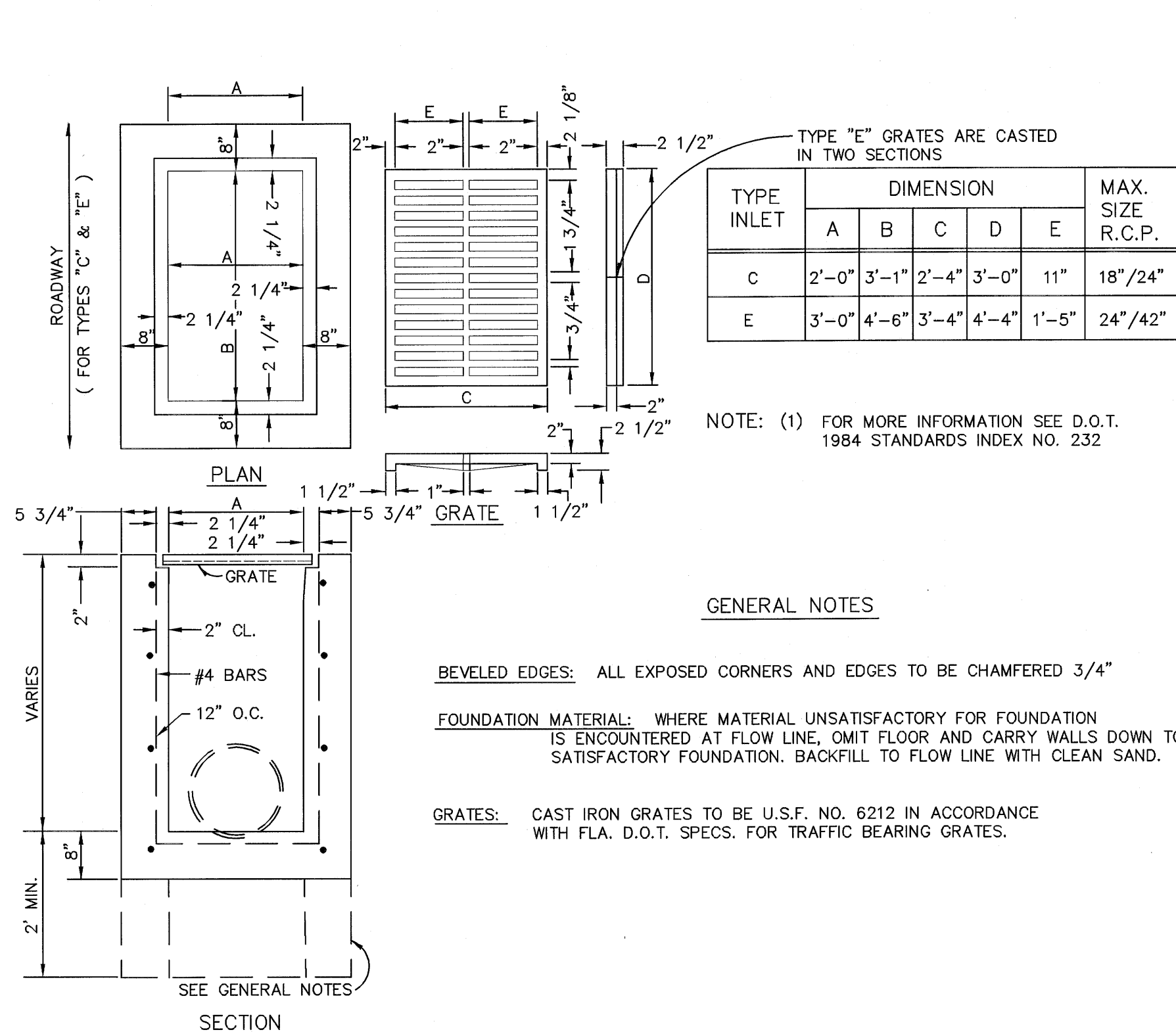
COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 3869

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
enginpod225@aol.com

	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH
PAVING, GRADING & DRAINAGE PLAN



TYPE "C" & "E" INLETS

U.S. FOUNDRY 5130-6168 HOOD & GRATE

DIMENSIONS AND QUANTITIES																						
D	X	A	B	C	E	F	G	H	M				N	5 1/2" CONCRETE SLAB (CY)				SOODING (SQ. YDS.)				
									Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe		Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	
1/2 Slope	18"	2'-7"	1.30'	2.06'	4.01'	2.06'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.38	0.58	0.77'	0.96'	21	24	27	30
	24"	2'-9"	1.30'	2.14'	4.21'	2.14'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.44	0.63	0.82'	1.01'	22	25	28	31
	30"	3'-1"	1.30'	2.28'	4.56'	2.28'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.49	0.68	0.87'	1.06'	23	26	29	32
	36"	3'-3"	1.30'	2.42'	4.91'	2.42'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.54	0.73	0.92'	1.11'	24	27	30	33
	42"	3'-5"	1.30'	2.56'	5.26'	2.56'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.59	0.78	0.97'	1.16'	25	28	31	34
	48"	3'-7"	1.30'	2.70'	5.61'	2.70'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.64	0.83	1.02'	1.21'	26	29	32	35
	54"	3'-9"	1.30'	2.84'	5.96'	2.84'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.69	0.88	1.07'	1.26'	27	30	33	36
	60"	4'-1"	1.30'	2.98'	6.31'	2.98'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.74	0.93	1.12'	1.31'	28	31	34	37
	66"	4'-3"	1.30'	3.12'	6.66'	3.12'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.79	0.98	1.17'	1.36'	29	32	35	38
	72"	4'-5"	1.30'	3.26'	7.01'	3.26'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.84	1.03	1.22'	1.41'	30	33	36	39
1/4 Slope	18"	2'-7"	1.30'	2.06'	4.01'	2.06'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.48	0.68	0.87'	1.06'	23	26	29	32
	24"	2'-9"	1.30'	2.14'	4.21'	2.14'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.53	0.73	0.92'	1.11'	24	27	30	33
	30"	3'-1"	1.30'	2.28'	4.56'	2.28'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.58	0.78	0.97'	1.16'	25	28	31	34
	36"	3'-3"	1.30'	2.42'	4.91'	2.42'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.63	0.83	1.02'	1.21'	26	29	32	35
	42"	3'-5"	1.30'	2.56'	5.26'	2.56'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.68	0.88	1.07'	1.26'	27	30	33	36
	48"	3'-7"	1.30'	2.70'	5.61'	2.70'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.73	0.93	1.12'	1.31'	28	31	34	37
	54"	3'-9"	1.30'	2.84'	5.96'	2.84'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.78	0.98	1.17'	1.36'	29	32	35	38
	60"	4'-1"	1.30'	2.98'	6.31'	2.98'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.83	1.03	1.22'	1.41'	30	33	36	39
	66"	4'-3"	1.30'	3.12'	6.66'	3.12'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.88	1.08	1.27'	1.46'	31	34	37	40
	72"	4'-5"	1.30'	3.26'	7.01'	3.26'	5'	1.20'	2.7'	4.63'	7.20'	9.79'	12.37'	1.09'	0.93	1.13	1.32'	1.51'	32	35	38	41
See General Note No. 3. See Sheet 5 of 6 For 3" Slope Quantities																						
Values shown for estimating pipe quantities and are for information only.																						
B & E 4" to 15" Dimensions permitted to allow use of 8" standard pipe lengths. O 4" to O 10" Dimensions permitted to allow use of 12" standard pipe lengths.																						
Concrete slab shall be deepened to form bridge across crown of pipe. See section below.																						

See General Note No. 3.
See Sheet 5 Of 6 For 3" Slab Quantities

Values shown for estimating pipe quantities and are for information only.

Δ 6.42' Δ 6.25' Dimensions permitted to allow use of 8" standard pipe lengths.
Δ 10.40' Δ 10.00' Dimensions permitted to allow use of 12" standard pipe lengths.
Δ Concrete slab shall be designed to form bridge across crown of pipe. See section below.

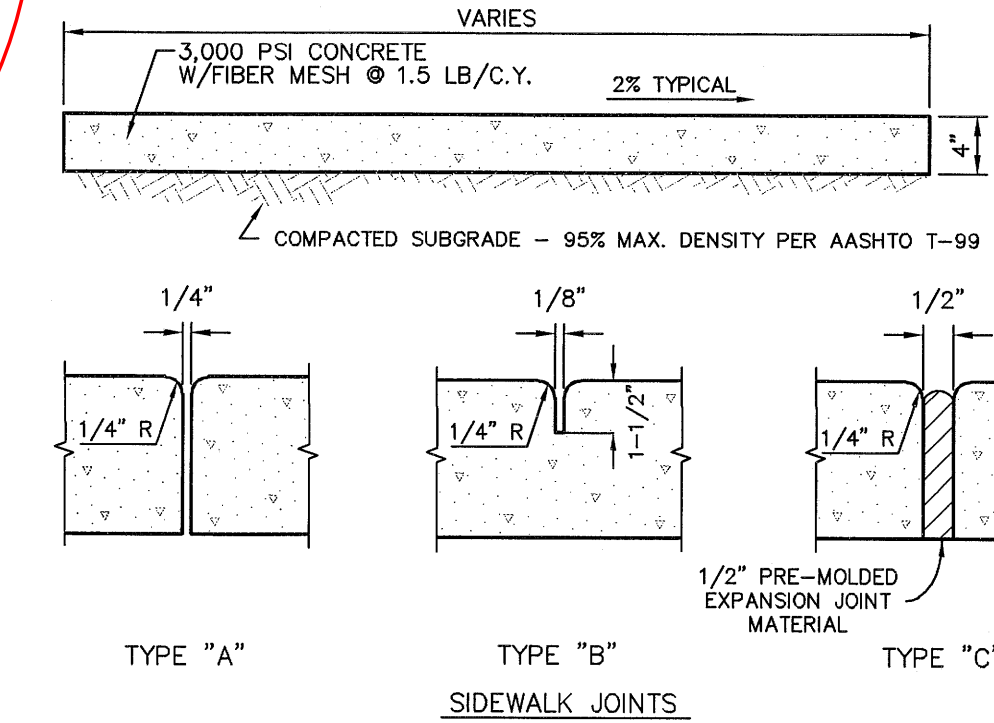
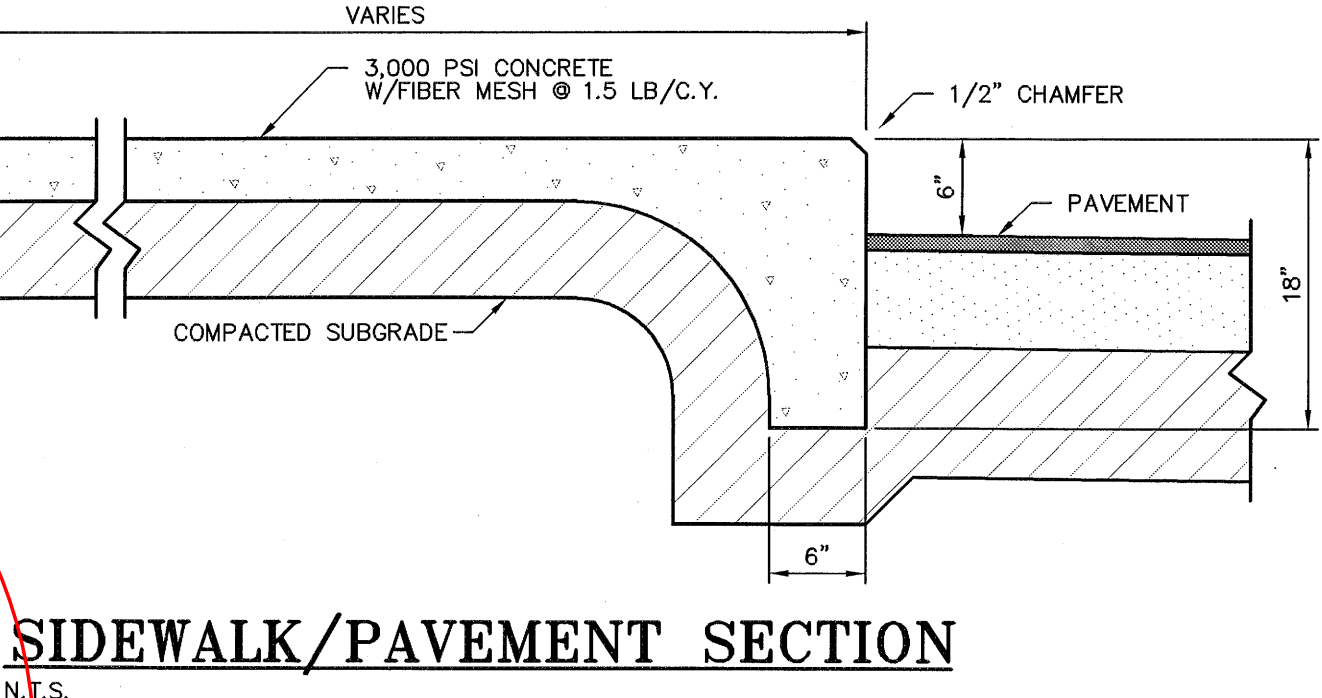
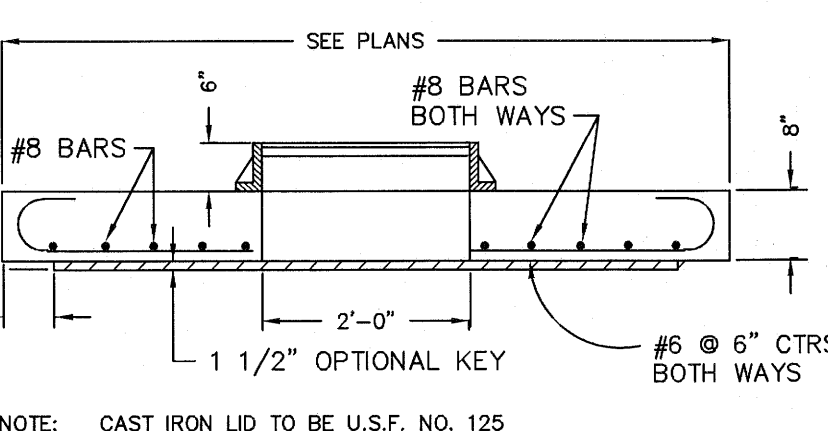
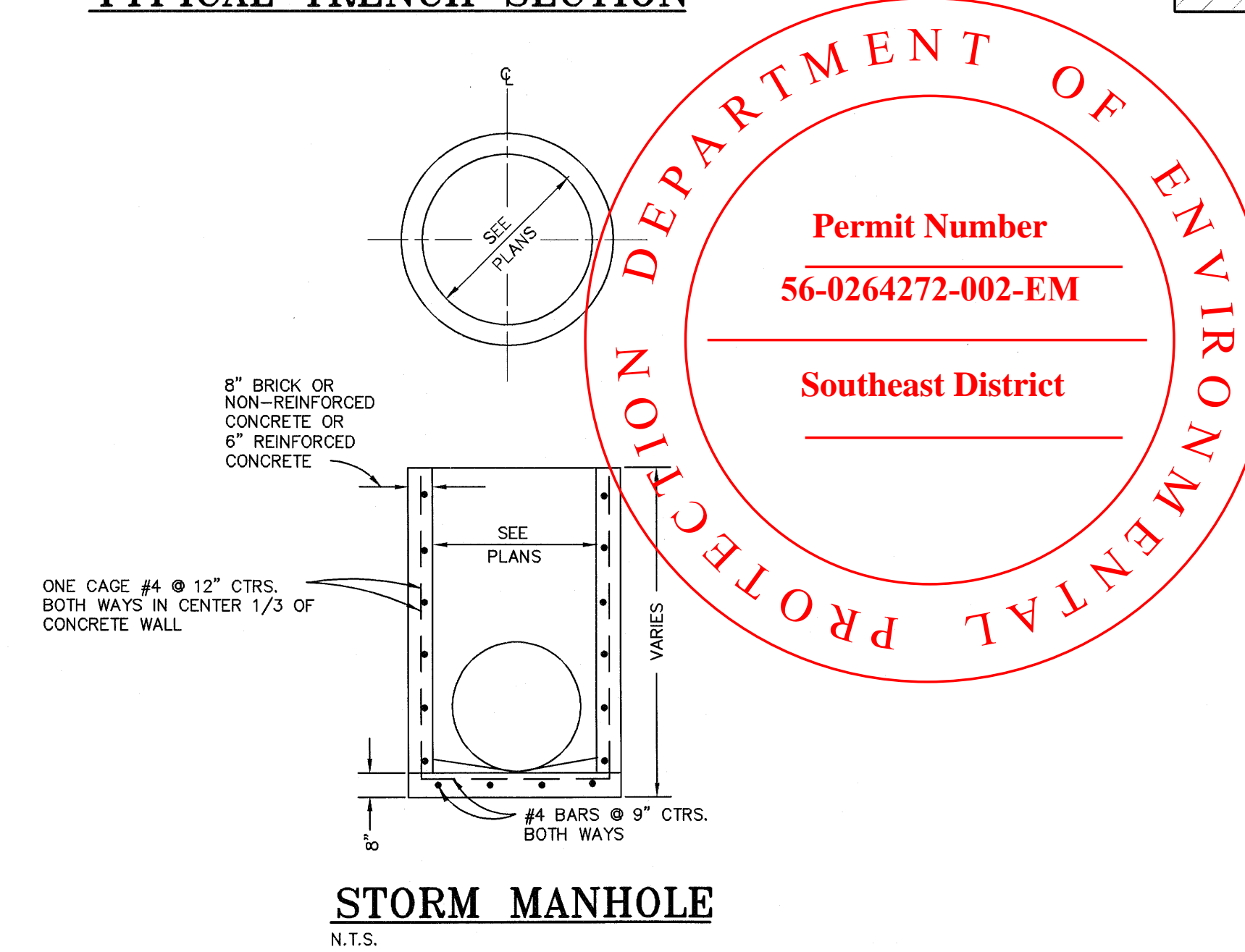
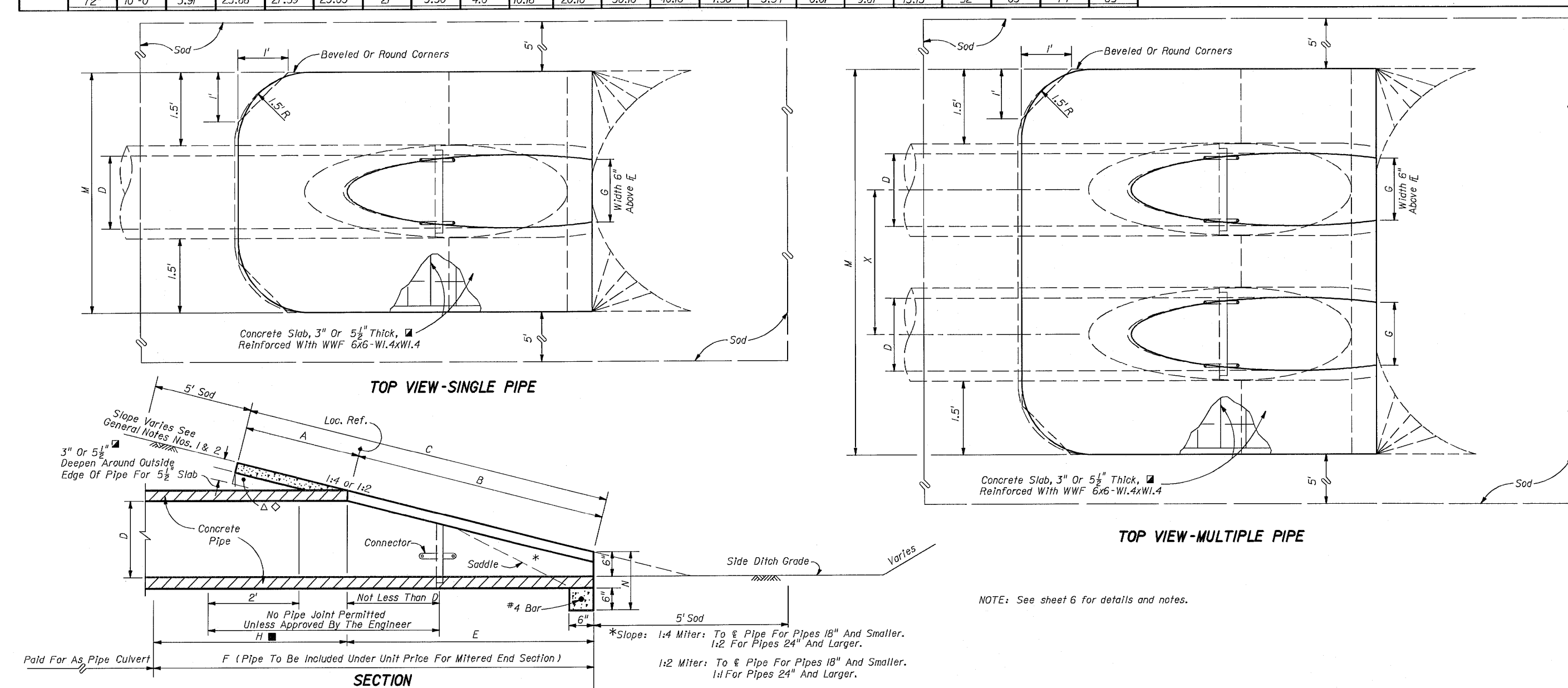


TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	AT P.C. AND P.T. OF CURVES AND AT JUNCTION OF EXISTING AND NEW SIDEWALKS.
"B"	5'-0" CENTER TO CENTER ON NEW SIDEWALKS.
"C"	WHERE NEW SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES

SIDEWALK CONSTRUCTION DETAILS

NOTE: PLEASE REFER TO F.D.O.T. INDEX #310 FOR SIDEWALK CONSTRUCTION

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -

BY DATE

COMPUTER FILE REF. FIELD BK./PG.

Ladyko Design Group, LLC

ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS

STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 2600

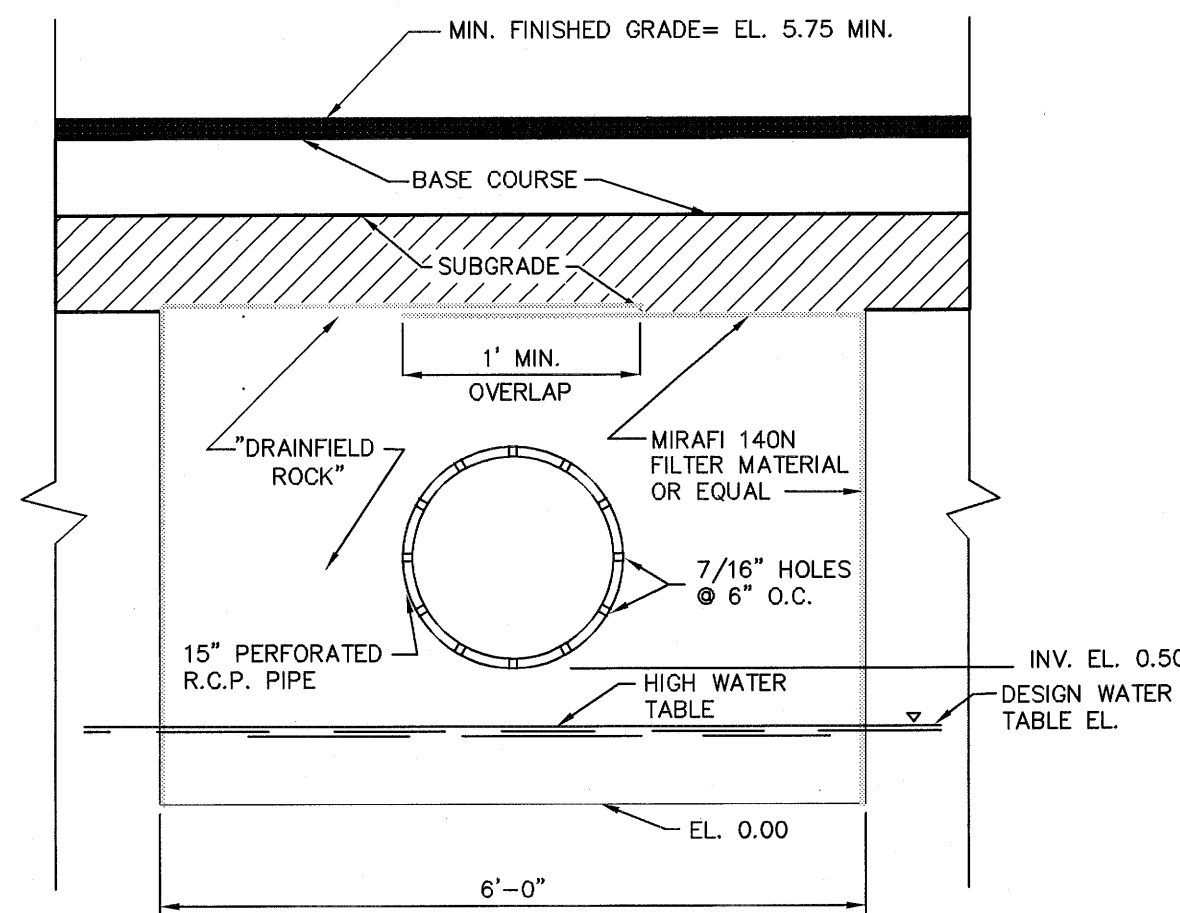
4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
enginpod223@aol.com

DESIGNED	BY	DATE
RML	08/22/14	
CALCS.		
RML	08/22/14	
DRAWN		
RML		
CHECKED		
RML		
APPROVED		

SUNSET BEACH

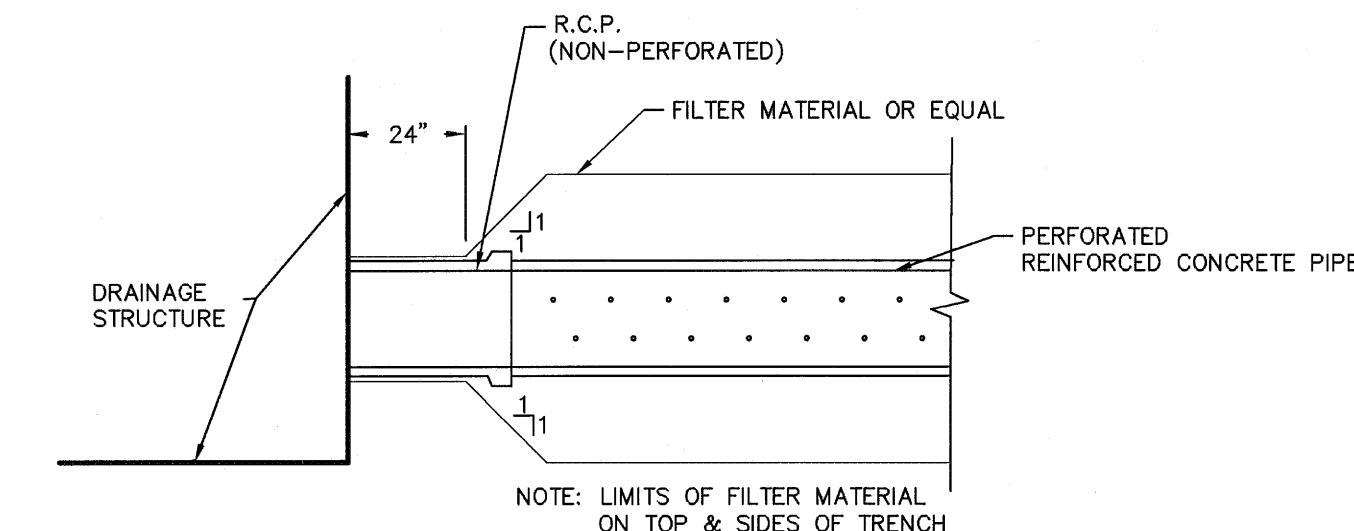
PAVING, GRADING & DRAINAGE DETAILS

DATE: 08/22/14
HORIZ. SCALE: NONE
VERT. SCALE: NONE
JOB No. 14-009
SHEET 14 OF 26

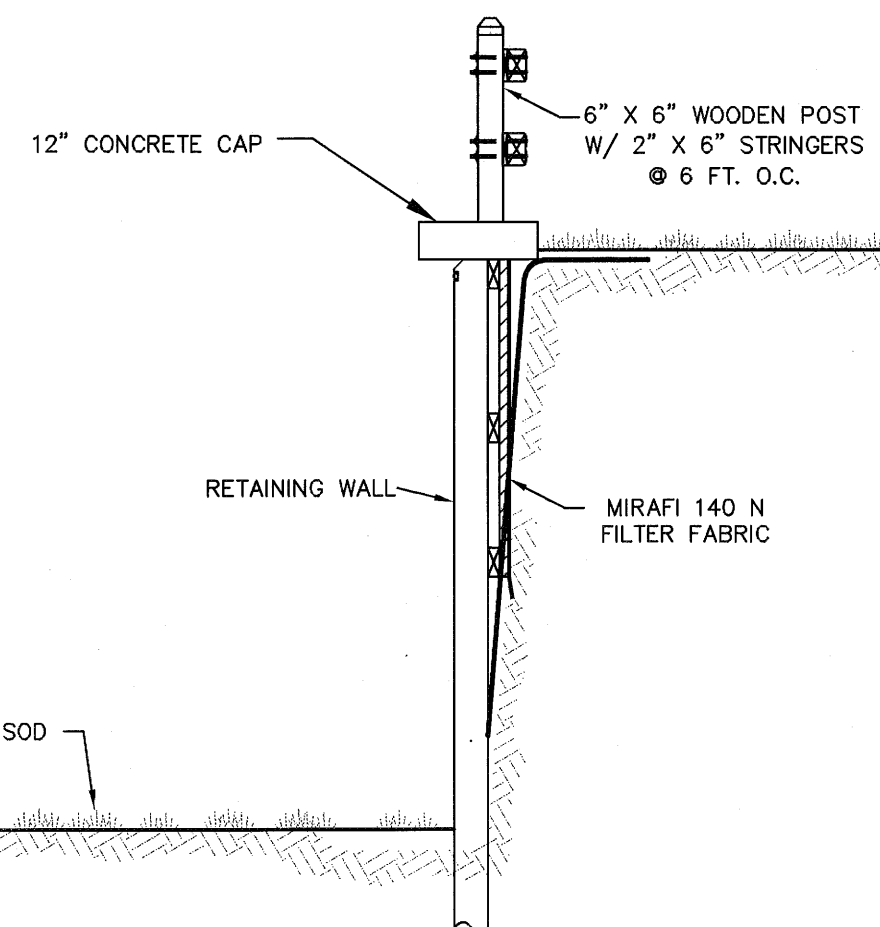


EXFILTRATION TRENCH SECTION

NOTE: PERFORATED PIPE SHALL CONSIST OF 10-1.0 SQ. IN./FT. OPENINGS STAGGERED 2/3/2/3.

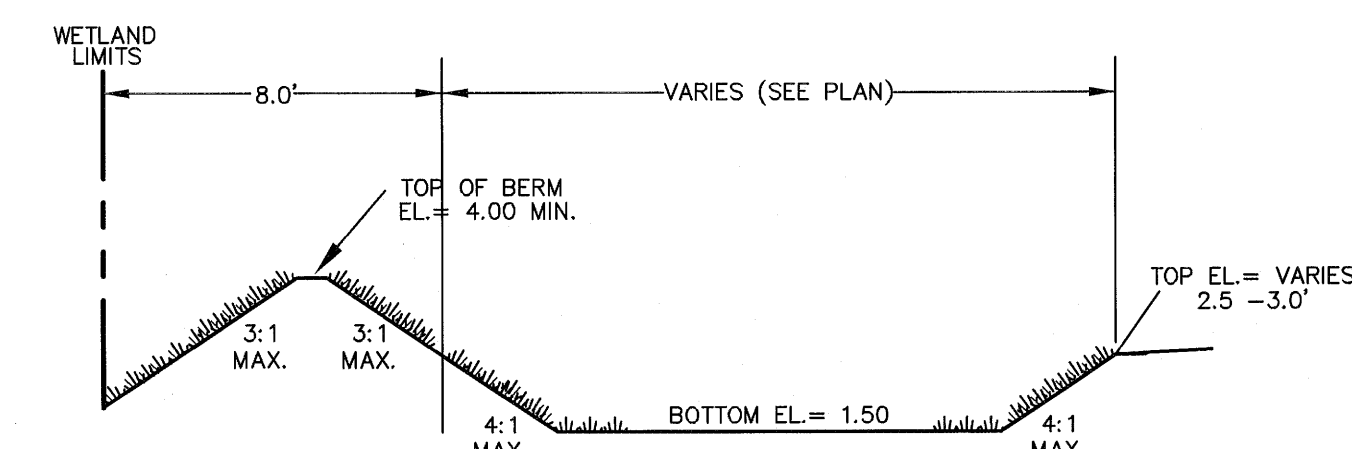


EXFILTRATION CONNECTION DETAIL



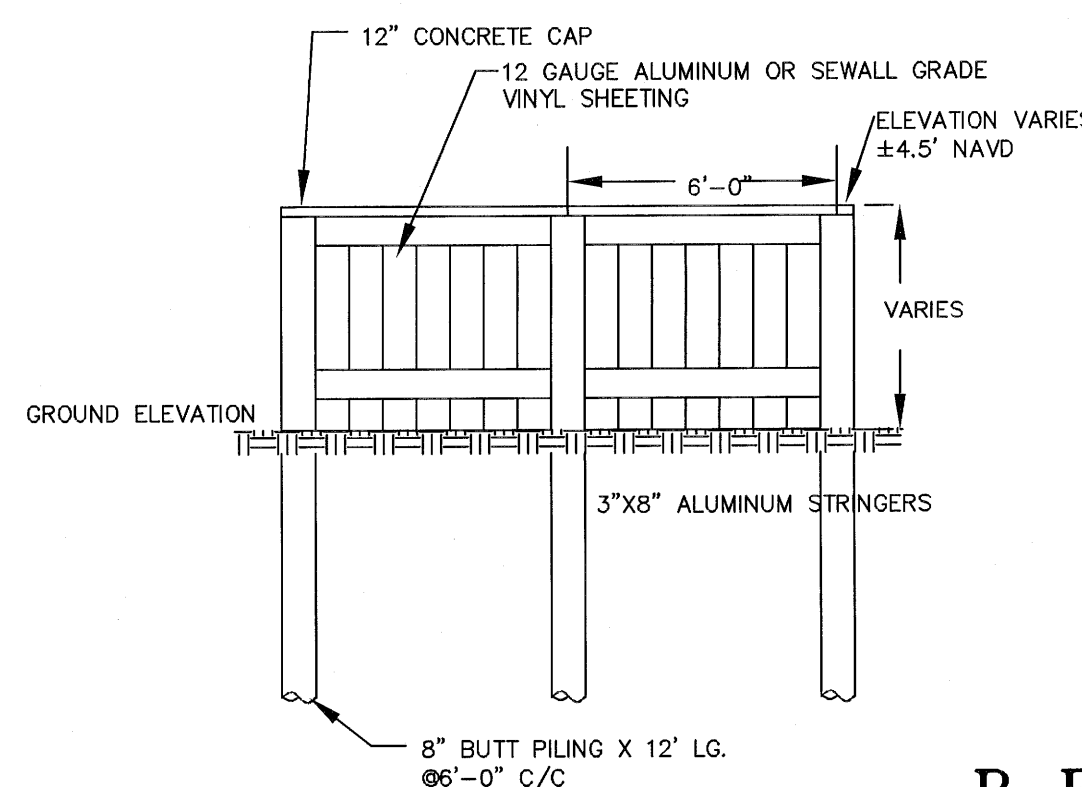
A-A DETENTION AREA/RETAINING WALL DETAIL

N.T.S.



DRY DETENTION SECTION

N.T.S.

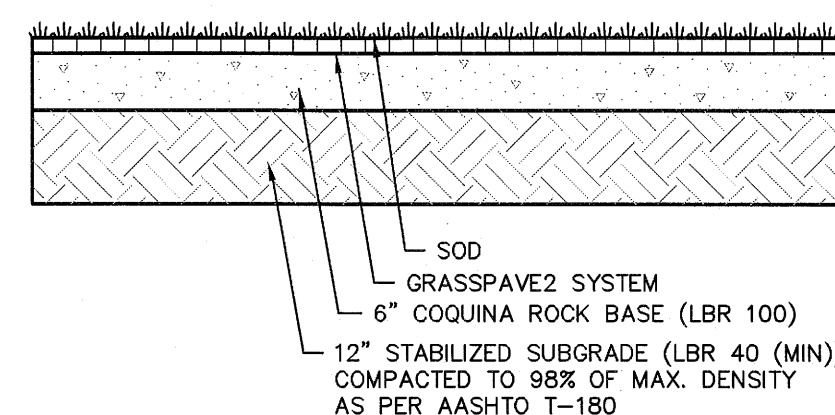


RETAINING WALL - W/O BARRIER

NOTES

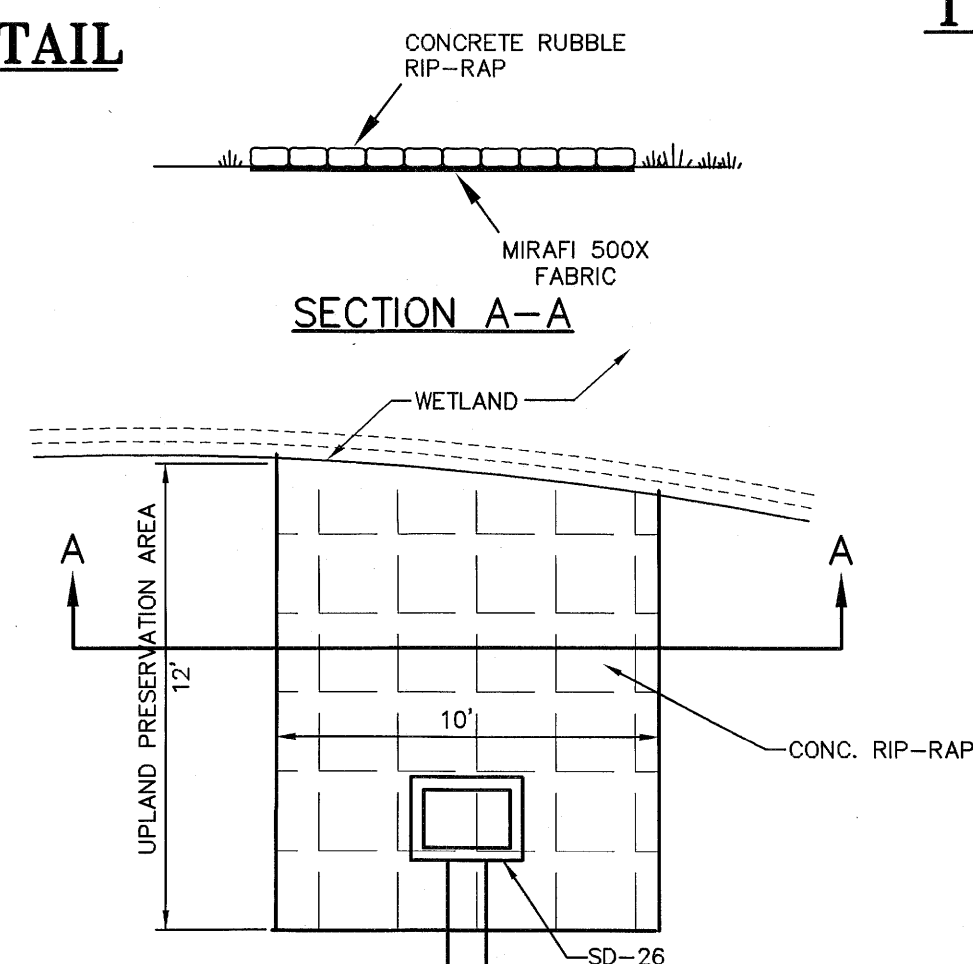
1. FINAL DESIGN OF RETAINING WALL TO BE DETERMINED PRIOR TO CONSTRUCTION. ONLY MATERIALS TO BE USED SHALL BE NO. 12 GAUGE ALUMINUM OR VINYL. FINAL DESIGN SHALL INCLUDE ALL ALL STRUCTURAL CALCULATIONS. ALL FASTENERS SHALL BE STAINLESS STEEL.

B-B WETLAND/RETAINING WALL SECTION W/BARRIER



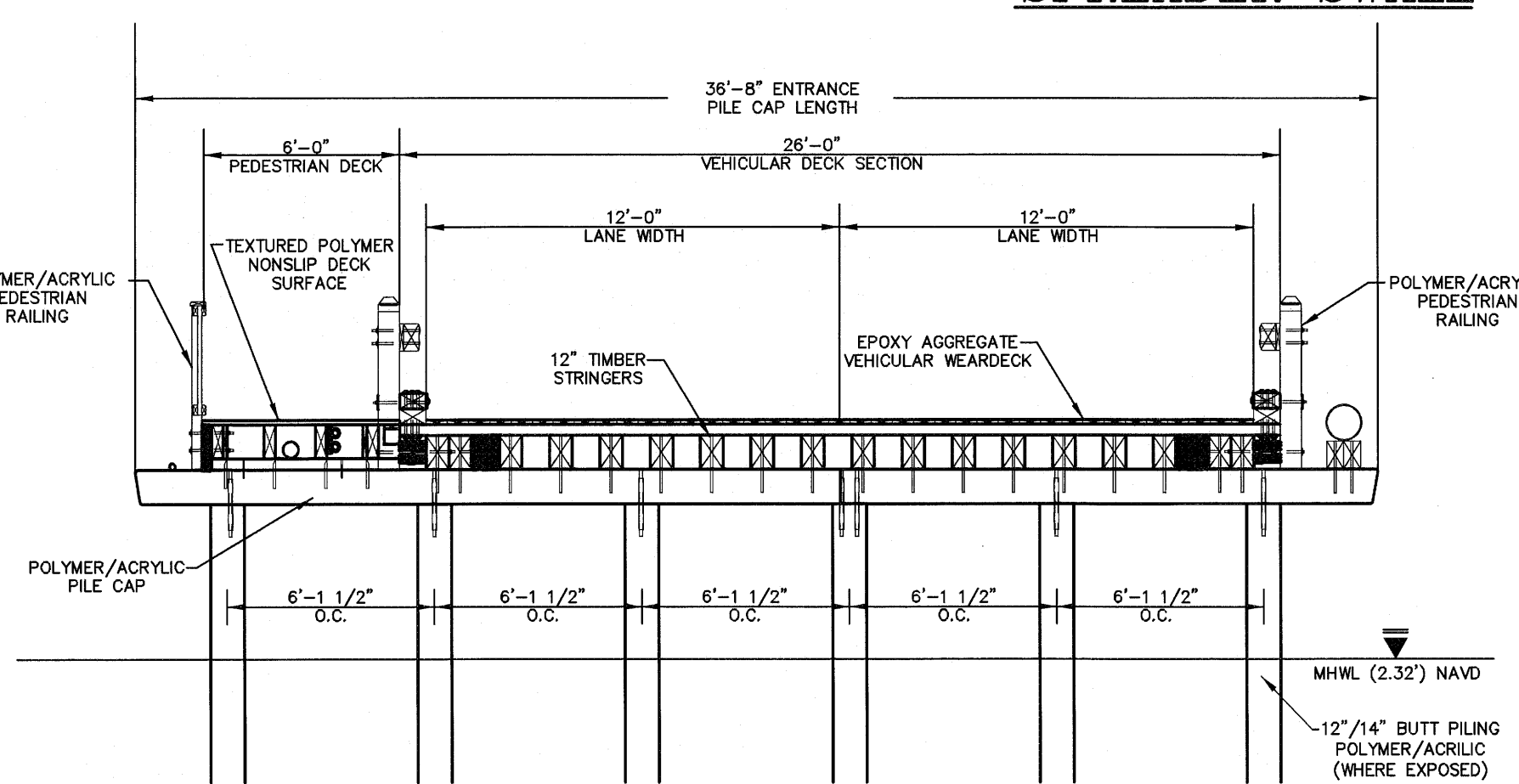
STABILIZED EMERGENCY ACCESS

NOTE: GRASSPAVE2 SYSTEM HYDROGROW MIX BELOW RING SUPPLIED FREE BY MANUFACTURER ON TOP OF CLEAN SHARP SAND



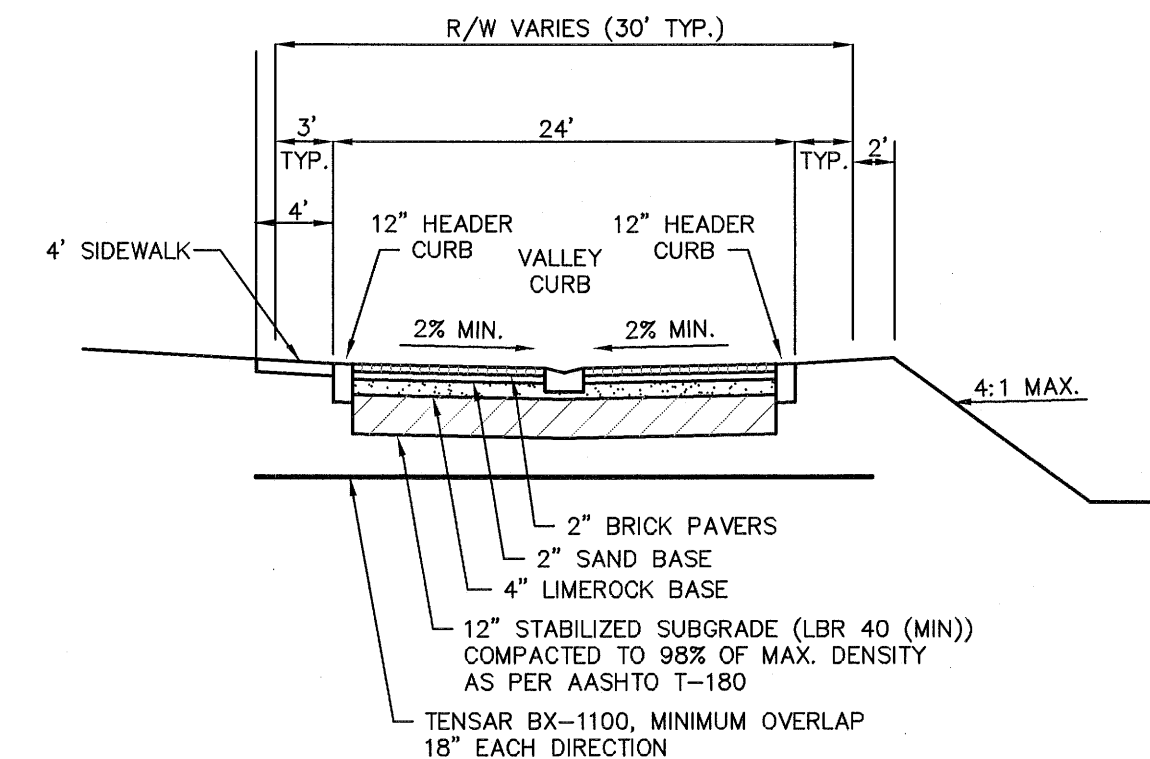
SPREADER SWALE

PLAN VIEW



TYPICAL BRIDGE SECTION (JOE'S POND)

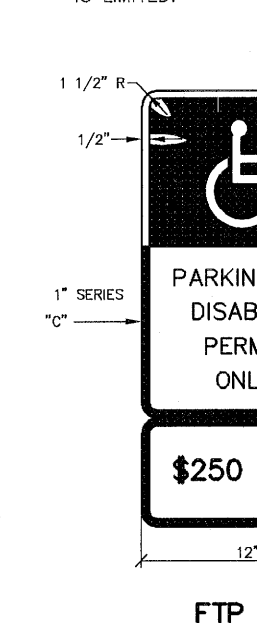
1. FOR INFORMATIONAL PURPOSES ONLY. REFER TO FINAL DESIGN OF BRIDGE STRUCTURE BY YORK BRIDGE CONCEPTS, INC.
2. BRIDGE STRUCTURE HAS BEEN DESIGNED FOR HS20-44 LOADING CAPACITY.



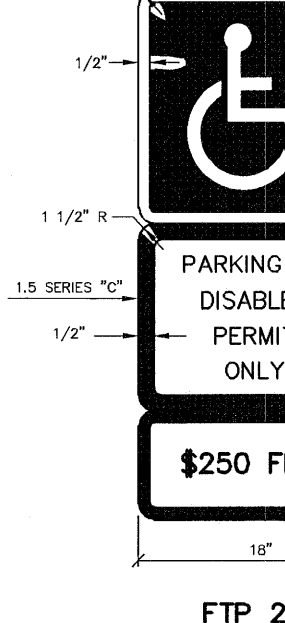
TYPICAL PAVEMENT SECTION (SEA PEARL)

NOTES

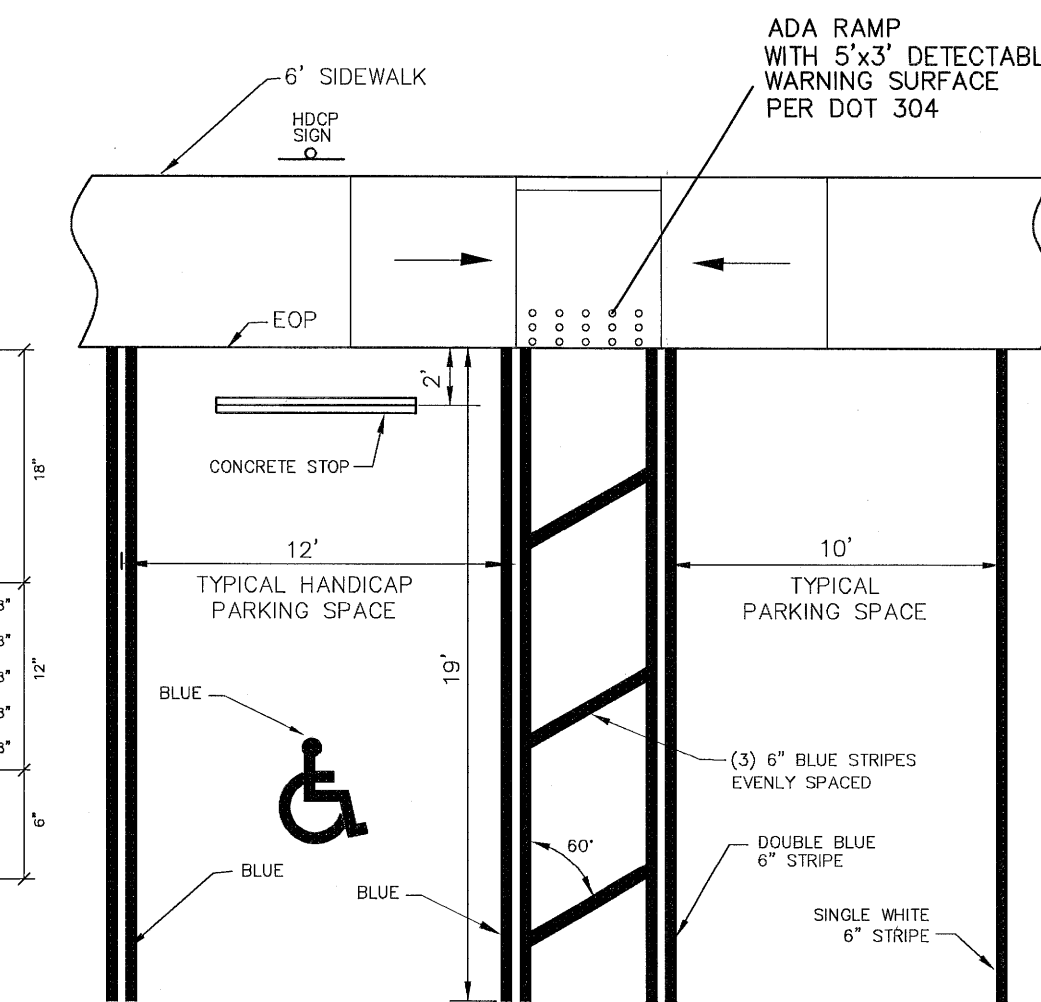
1. TOP PORTION OF FTP 25 & 26 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. FTP 25 & 26 MAY BE FABRICATED ON ONE PANEL OR TWO.
4. FTP 25 IS FOR AREAS WHERE SPACE IS LIMITED.



FTP 25

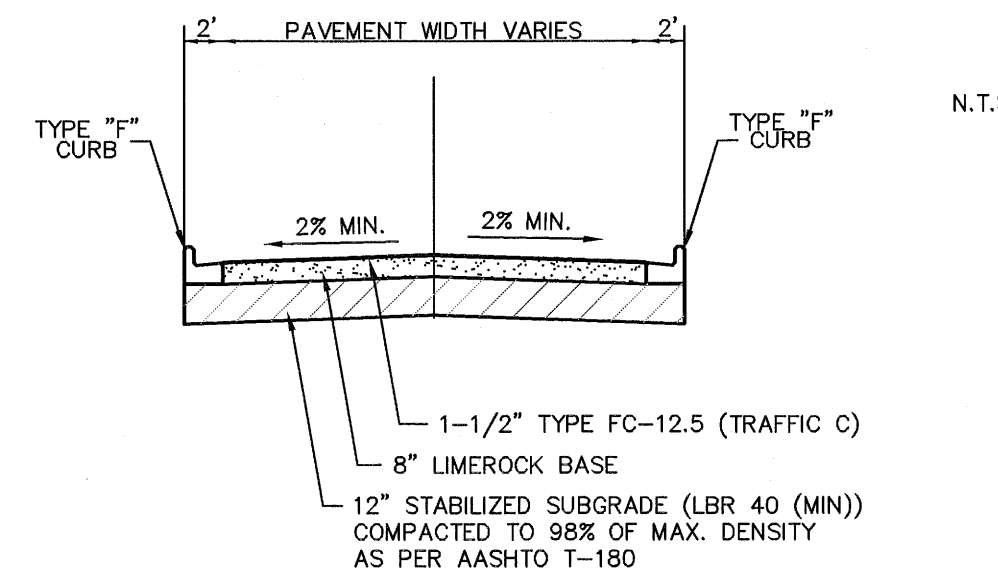


FTP 26



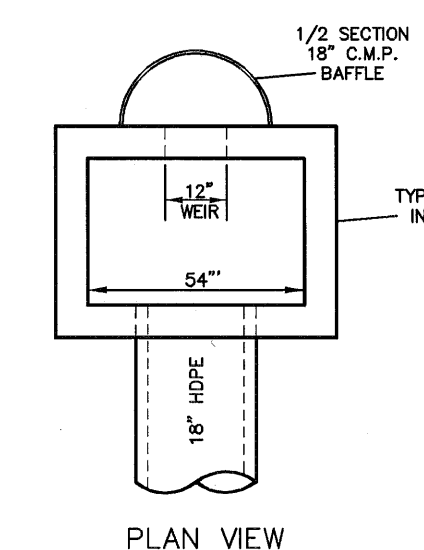
TYPICAL PARKING & HANDICAP SPACE DETAIL

* NOTE: PLEASE REFER TO F.D.O.T. INDEXES #17346 AND 17355 FOR THE LATEST HANDICAP PAVEMENT MARKING AND HANDICAP SIGN DETAILS RESPECTIVELY.

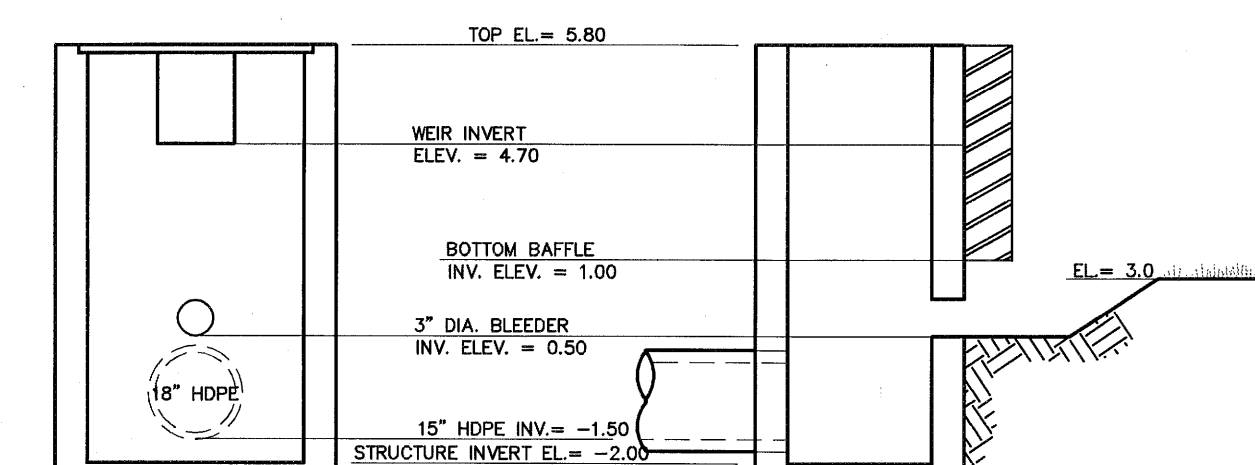


TYP. PAVEMENT SECTION @ ENTRANCE

N.T.S.



PLAN VIEW

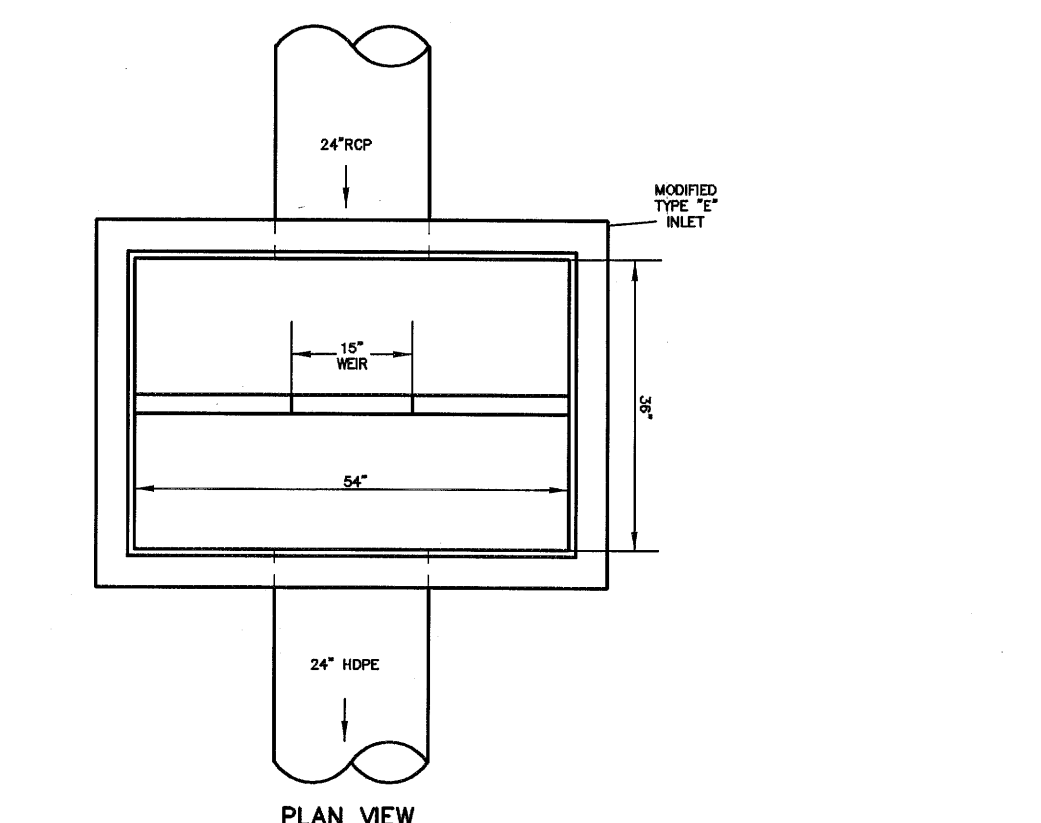


SECTION B-B

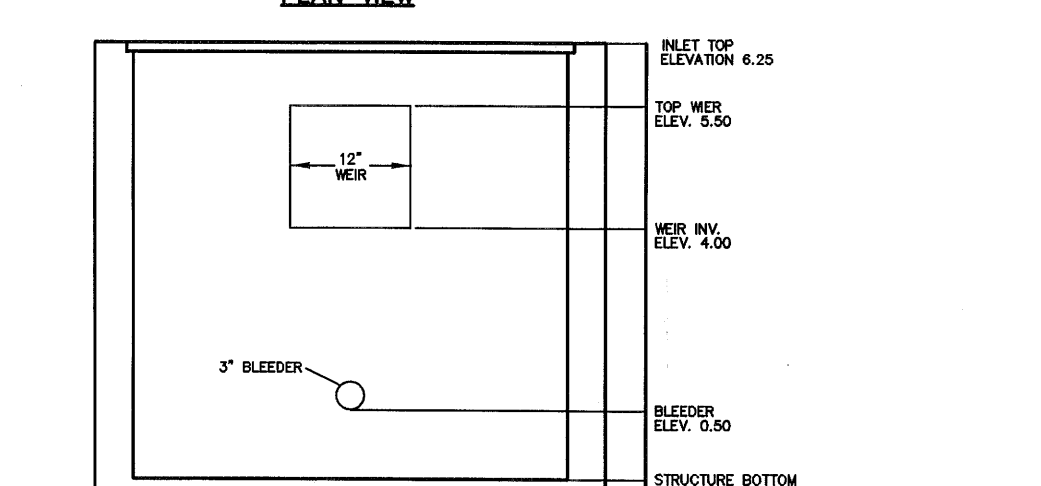
SECTION A-A

CONTROL STRUCTURE DETAIL - CS#2

N.T.S.



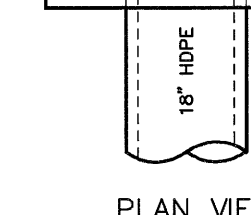
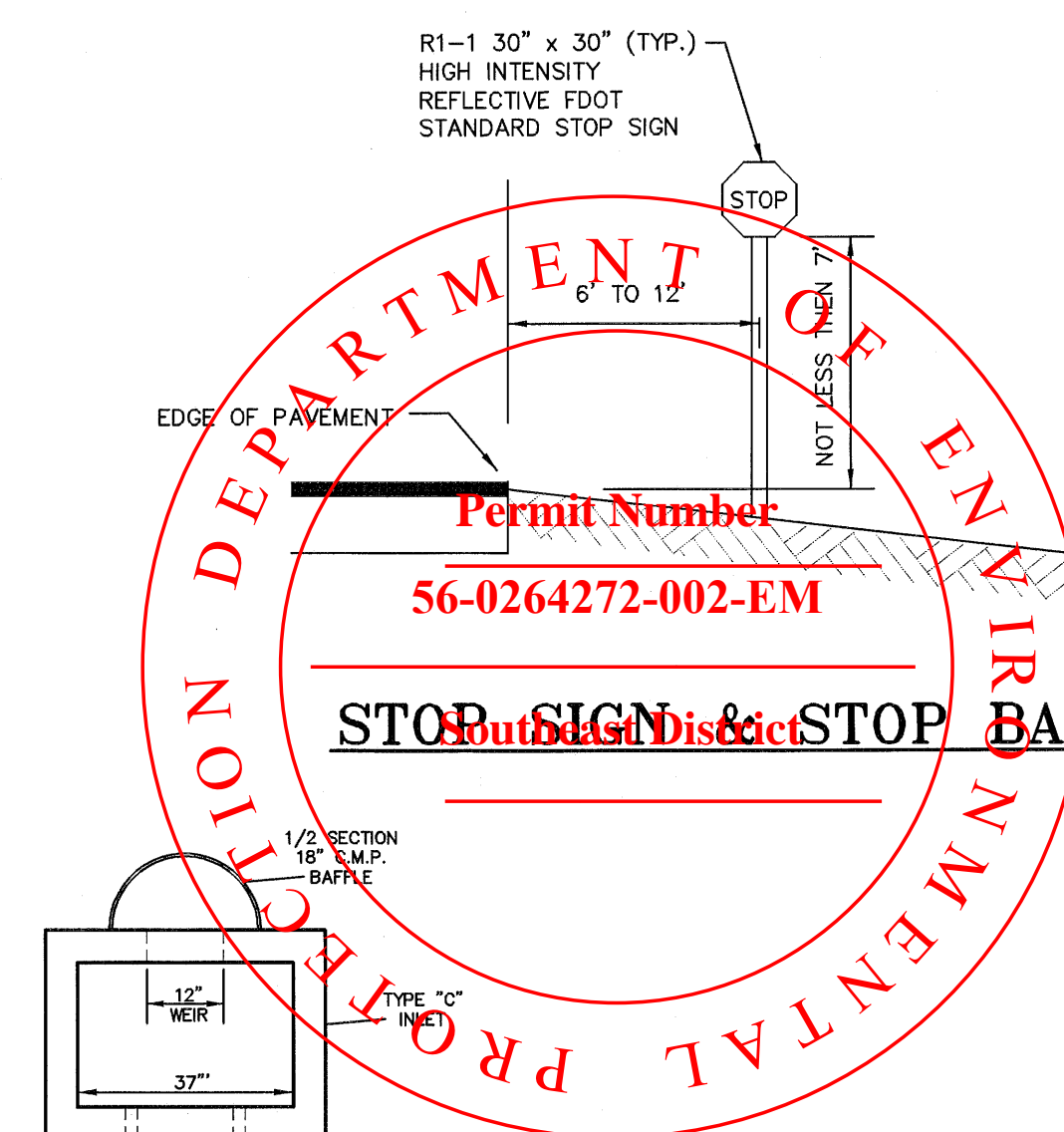
PLAN VIEW



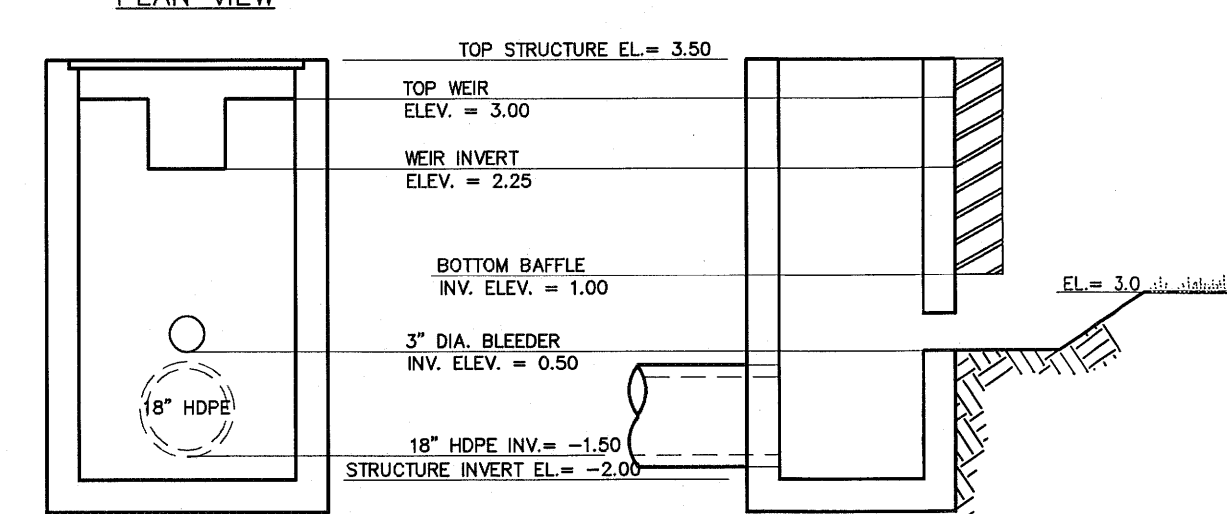
SECTION VIEW

CONTROL STRUCTURE DETAIL - CS#1

N.T.S.



PLAN VIEW



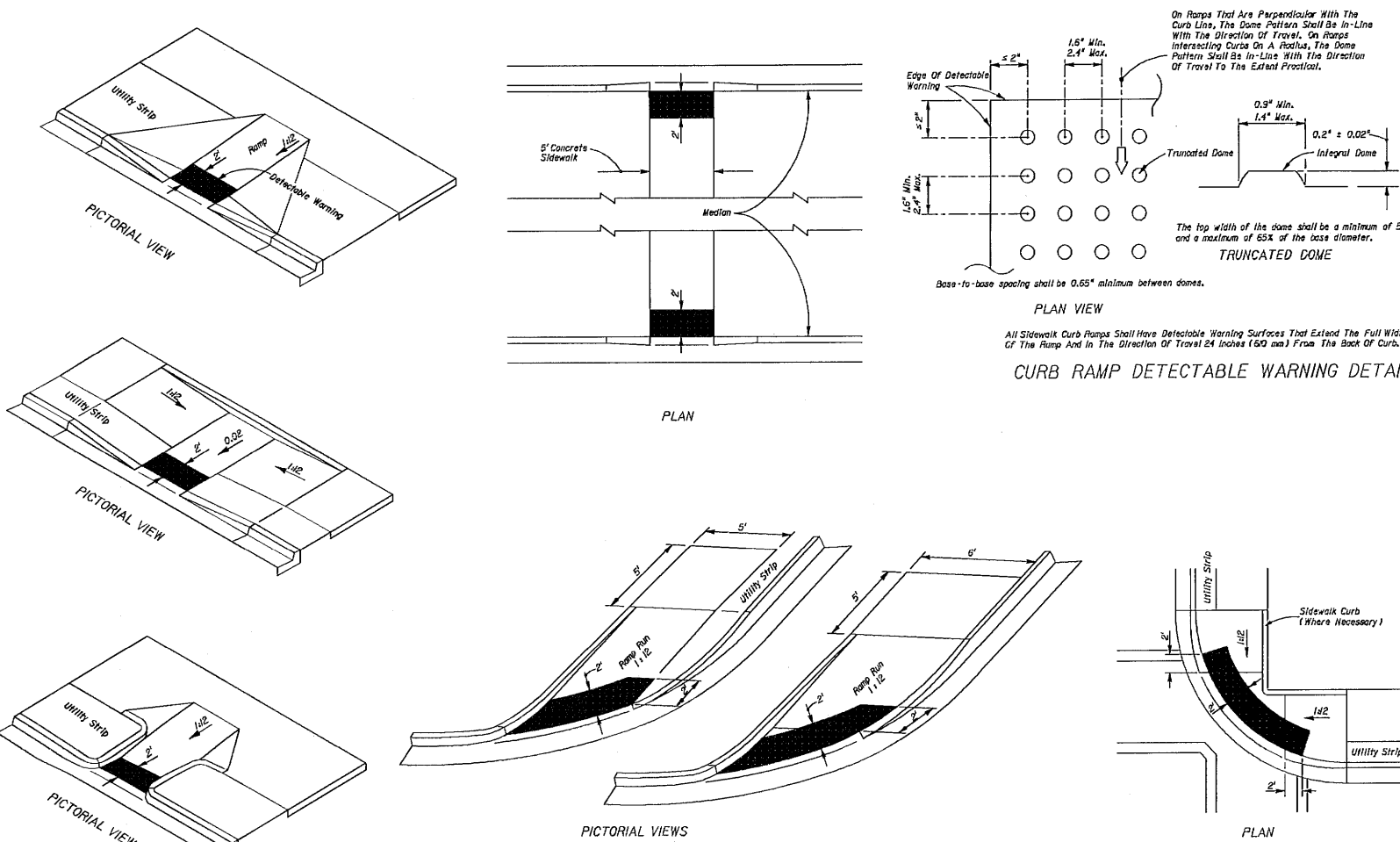
SECTION B-B

TYPE "C" INLET

SECTION A-A

CONTROL STRUCTURE DETAIL - CS#3

N.T.S.



TYPICAL PLACEMENT OF DETECTABLE WARNING ON CURB RAMPS

FDOT INDEX 304

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -

REVISIONS TO CONTROL STRUCTURE #3	BY	DATE
REVISIONS TO BRIDGE TYPICAL SECTION	RML	2-20-16
REVISIONS PER ST. LUCIE COUNTY	RML	10-17-16
REVISIONS TO CONTROL STRUCTURES	RML	11-18-16
	RML	1-10-17

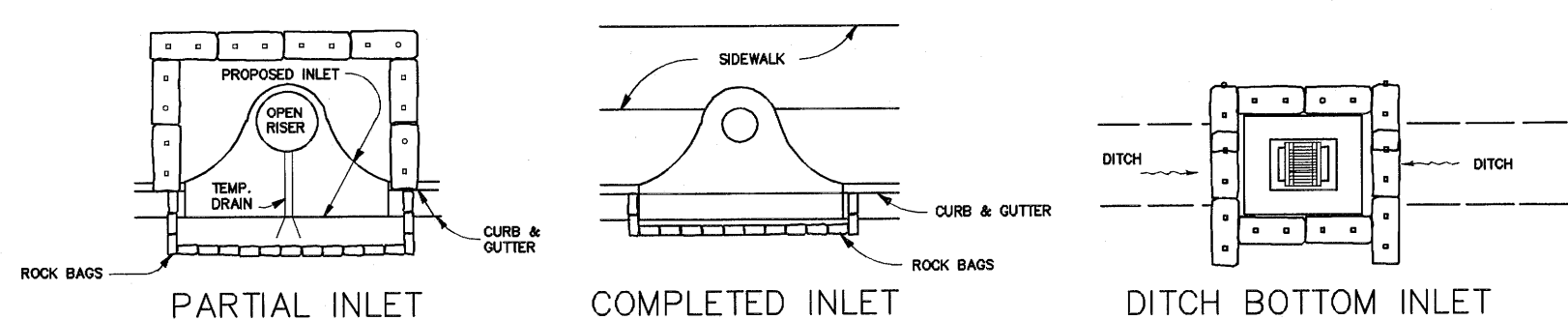
COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 2880

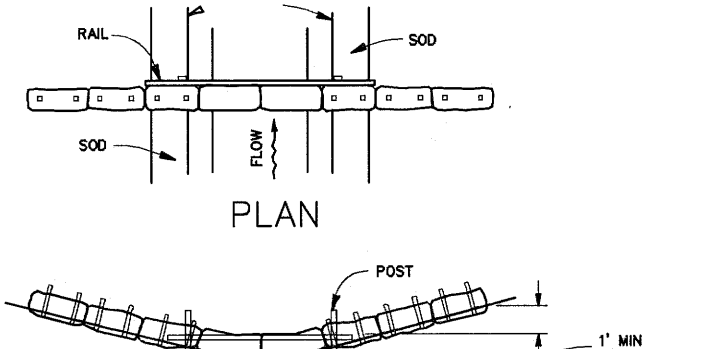
BY	DATE
DESIGNED	RML 08/22/14
CALCS.	
DRAWN	RML 08/22/14
DETAILED	
CHECKED	
APPROVED	

SUNSET BEACH
PAVING, GRADING & DRAINAGE DETAILS

DATE: 08/22/14
HORIZ. SCALE: NONE
VERT. SCALE: NONE
JOB No. 14-009
SHEET 15 OF 26



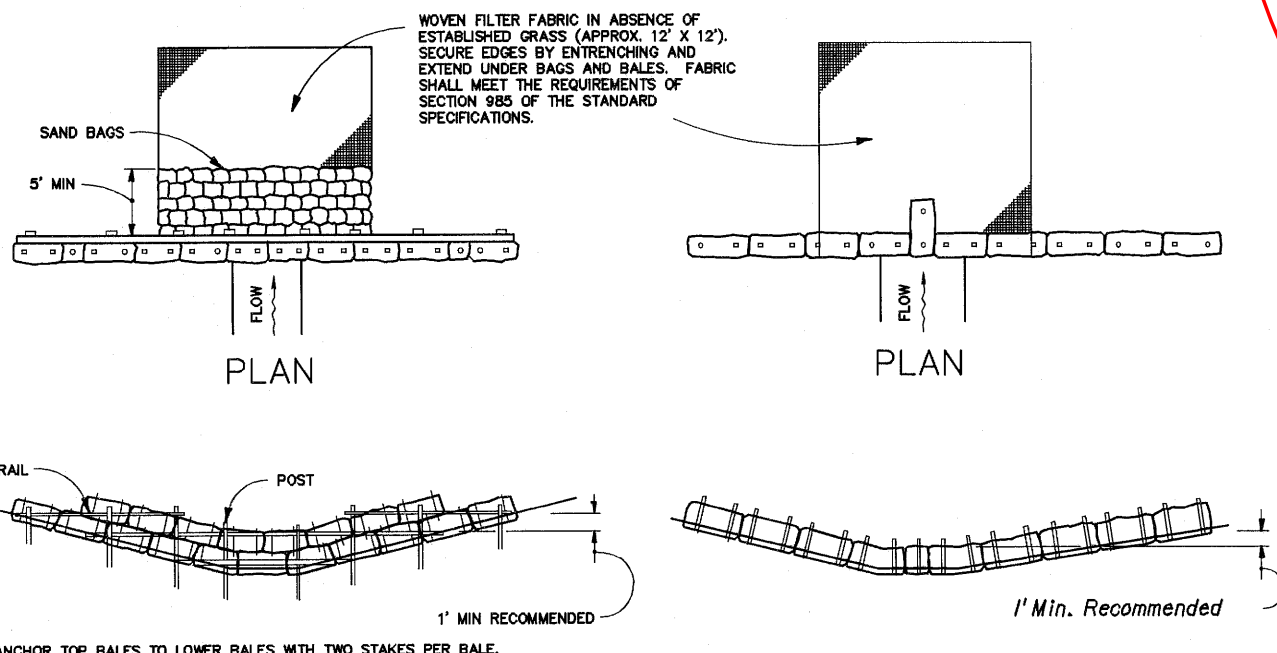
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



BARRIER FOR PAVED DITCH

NOTES FOR BALED HAY OR STRAW BARRIERS

1. TYPE I AND TYPE II BARRIERS SHOULD BE SPACED IN ACCORDANCE WITH CHART 1, SHEET 1.
2. HAY BALES SHALL BE TRENCHED 3" TO 4" AND ANCHORED WITH TWO 1"x2" (OR 1"x4") x 4' WOOD STAKES. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. RAILS AND POSTS SHALL BE 2"x4" WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER. UNAVOIDABLE GAPS SHALL BE PLUGGED WITH HAY OR STRAW TO PREVENT SILT FROM PASSING.
5. WHERE USED IN CONJUNCTION WITH SILT FENCE, HAY BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.
6. BALES TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR BALED HAY OR STRAW, EA. THE UNIT PRICE SHALL INCLUDE THE COST OF FILTER FABRIC FOR TYPE I AND II BARRIERS. SAND BAGS SHALL BE PAID FOR UNDER THE UNIT PRICE FOR SANGBAGGING. CY. ROCK BAGS SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR ROCK BAGS, EA.



BARRIERS FOR UNPAVED DITCHES

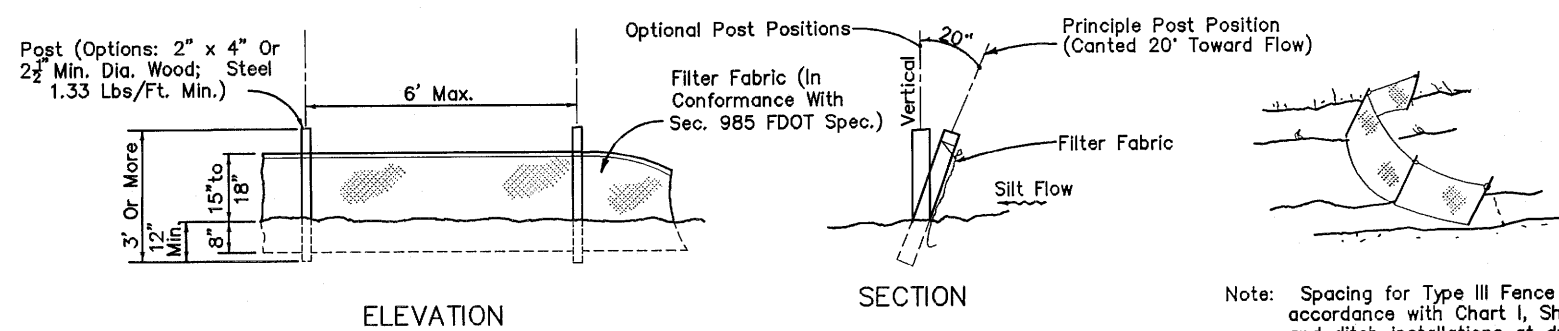
BALED HAY AND BALED STRAW BARRIERS

F.D.O.T. STD. INDEX #102 sheet 2 of 3

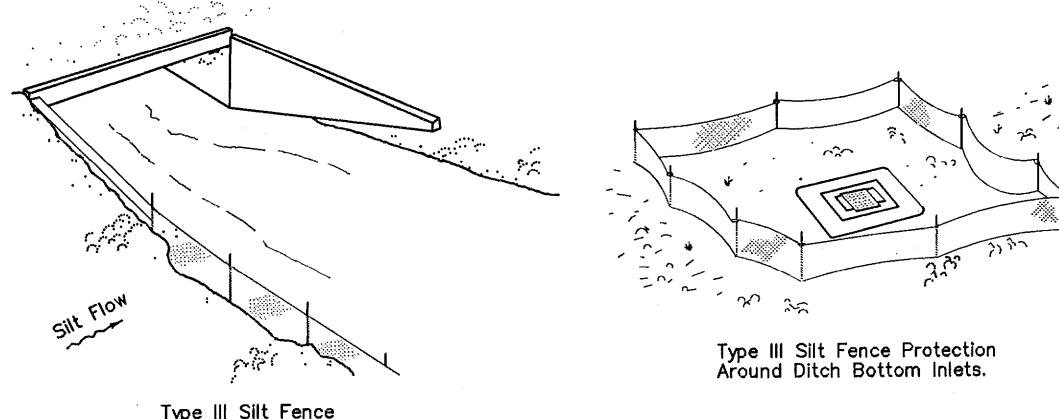
- NOTE:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
 2. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
 3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO OFF-SITE SEDIMENTATION.
 4. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 5. SILT FENCING SHALL BE REPLACED AFTER SIX MONTHS OF NORMAL USE.
 6. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND A MAXIMUM OF 6 FEET APART FOR EXTRA STRENGTH FILTER FABRIC.
 7. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AND 8 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH.
 8. SILT FENCING SHALL NOT BE REMOVED BEFORE THE UPSLOPE SURFACE HAS BEEN PERMANENTLY STABILIZED.

DOUBLE ROW STAKED SILTATION BARRIER

*NOTE: DOUBLE ROW SILTATION FENCE SHALL BE PLACED ALONG PERIMETER OF PROJECT AS INDICATED ON EROSION & SEDIMENT CONTROL PLAN.



TYPE III SILT FENCE



Note: Spacing for Type III Fence to be in accordance with Chart 1, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

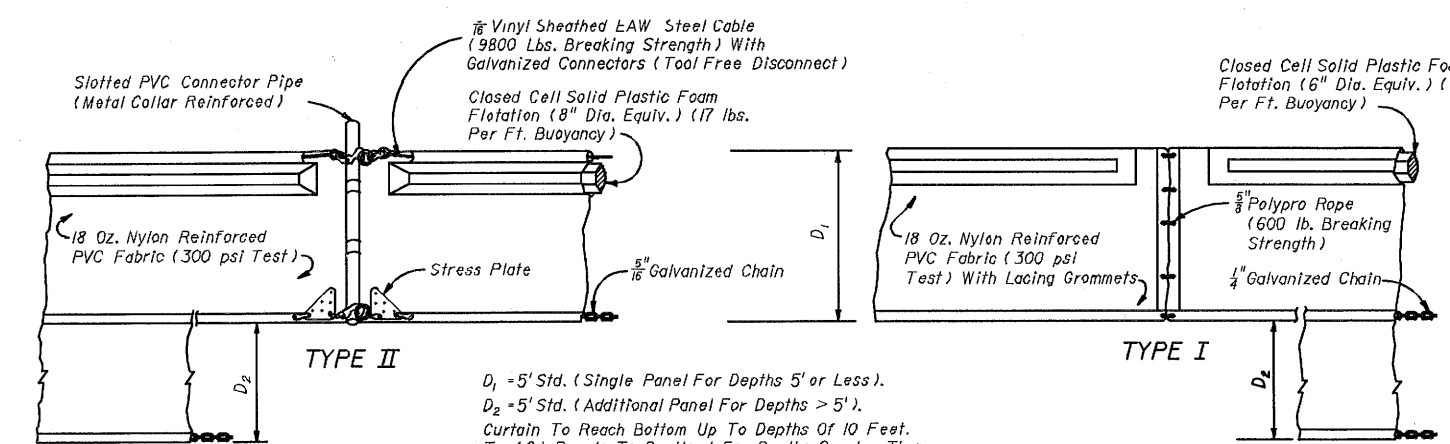
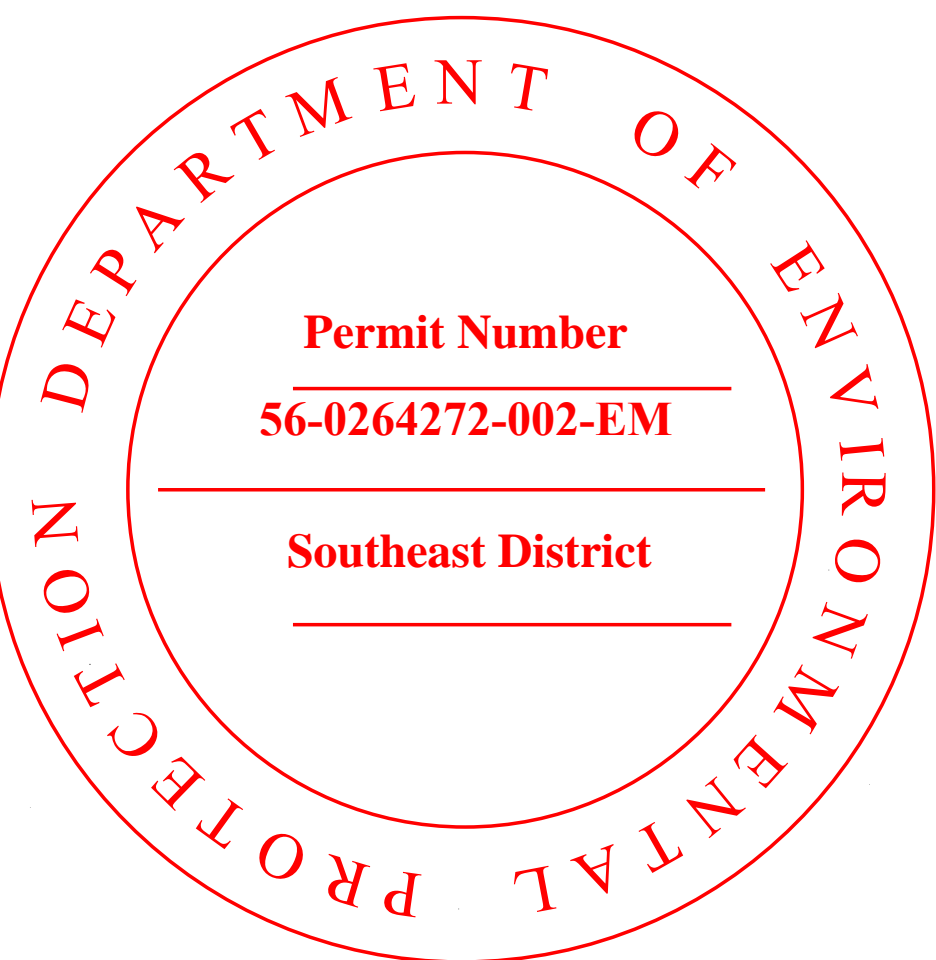
BALED HAY OR STRAW BARRIERS AND SILT FENCES

F.D.O.T. INDEX #102

SILT FENCE APPLICATIONS

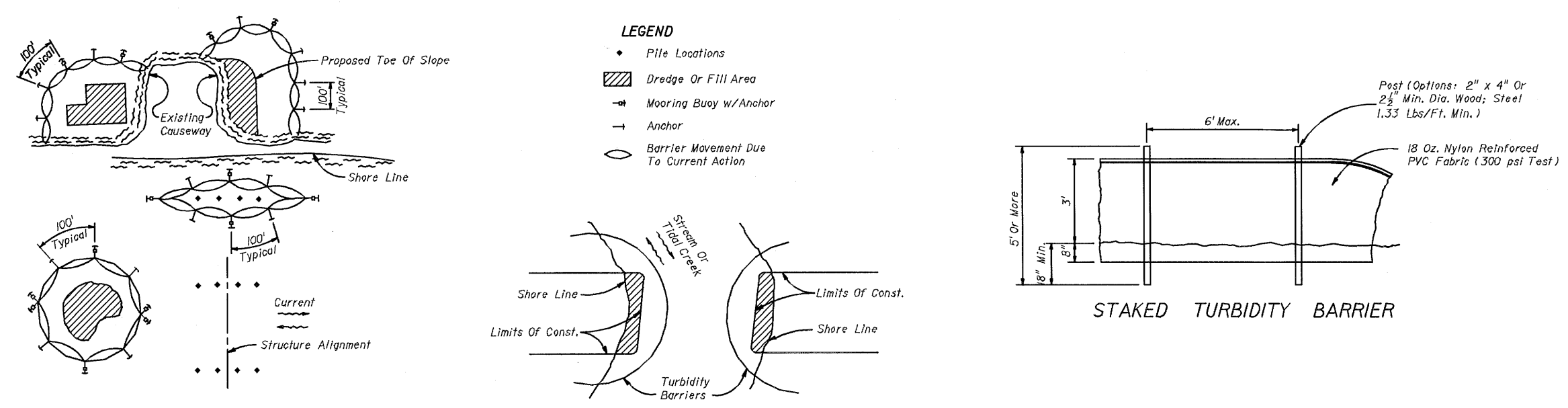
SILT FENCE

F.D.O.T. STD. INDEX #102 sheet 3 of 3



NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS



STAKED TURBIDITY BARRIER

NOTES:

1. Turbidity barriers for flowing streams and tidal areas may be either floating, or staked types or any combination of types that will suit site conditions and meet erosion control and water quality requirements. The barrier type(s) will be at the Contractor's option unless otherwise specified in the plans, however payment will be under the pay item(s) established in the plans for Floating Turbidity Barrier and/or Staked Turbidity Barrier. Posts in staked turbidity barriers to be installed in vertical position unless otherwise directed by the Engineer.

GENERAL NOTES

1. Floating turbidity barriers are to be paid for under the contract unit price for Floating Turbidity Barrier, LF.
2. Staked turbidity barriers are to be paid for under the contract unit price for Staked Turbidity Barrier, LF.

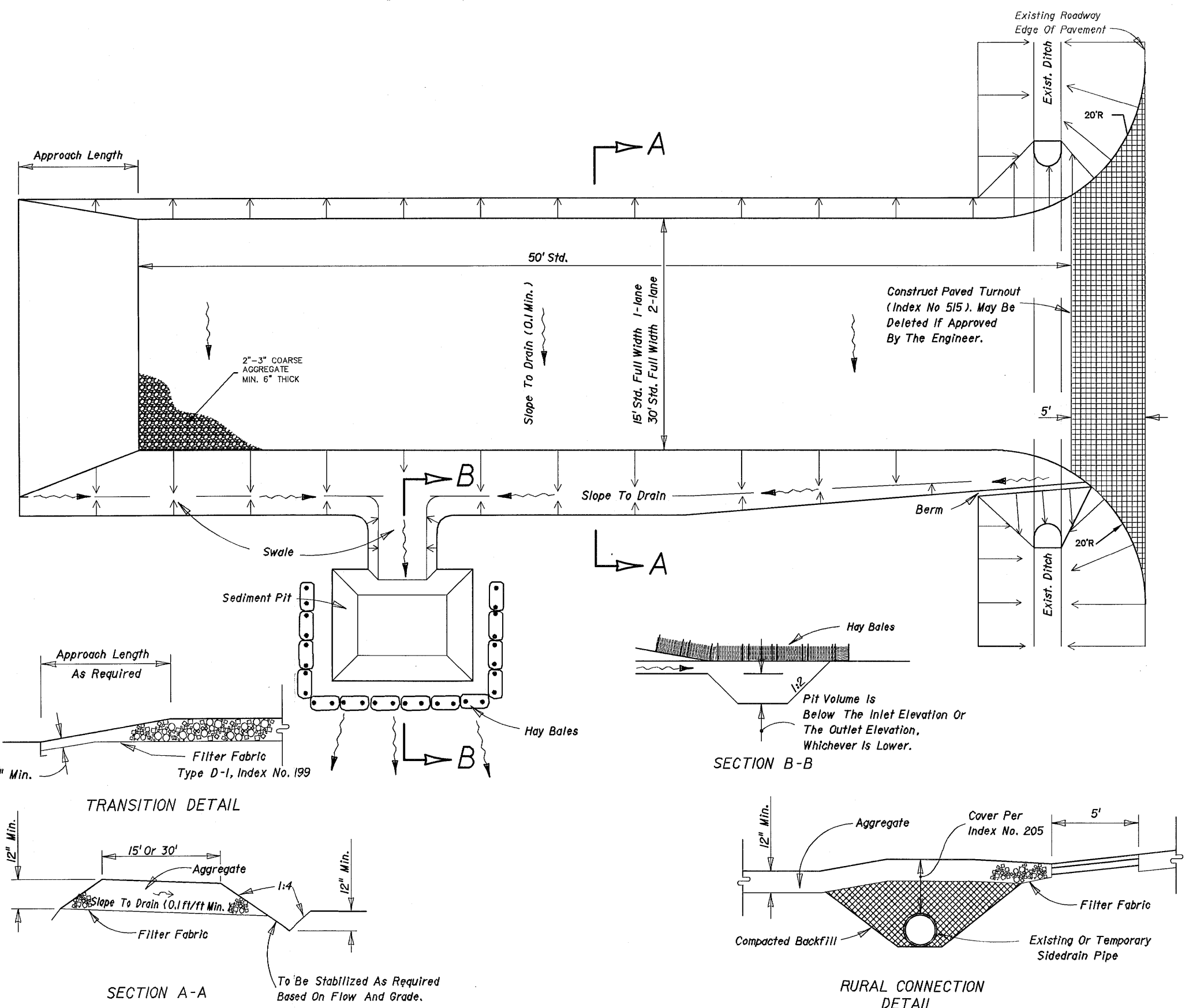
TURBIDITY BARRIER DETAILS

F.D.O.T. STD. INDEX #103

- GENERAL NOTES
1. A Silt Tracking Prevention Device (STPD) shall be constructed at locations designated by the engineer for points of ingress from unconsolidated areas of the project to public roads where offsite tracking of mud could occur. Traffic from unconsolidated areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular access across the STPD.
 2. The Contractor may propose an alternative technique to minimize offsite tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
 3. All materials spilled, dropped, or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily or more frequently if so directed by the Engineer.
 4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1, if this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
 5. The sediment pit should provide a retention volume of 3600 cubic feet for surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
15' x 50' x 100 ft³ 30' x 50' x 200 ft³
As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, hay bales or silt fence shall be placed along the entire length.
 6. The swale ditch draining the STPD shall have a 0.2% minimum and a 1.0% maximum grade along the STPD and to the sediment pit.
 7. Mitered end sections are not required when the side drain pipe satisfies the clear zone requirements.
 8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent offsite tracking, the STPD shall be rinsed daily when in use to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
 9. A STPD shall be paid for under the contract unit price for Silt Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal and restoration of the area utilized for the STPD, including but not limited to excavation, grading, temporary pipe (including MES), when restricted, filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rising and cleaning of the STPD and cleaning of public roads, grassing and seed. Hay bales shall be paid for under the contract unit price for Hay or Straw Bales, EA. Silt Fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
 10. The nominal size of a standard STPD is 15' x 50' unless otherwise shown in the plans. If the volume of entering and exiting vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS OR HIGHWAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANUP OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.



SOIL TRACKING PREVENTION DEVICE (STPD)

F.D.O.T. STD. INDEX #106

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -

BY DATE

COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION #3610

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8761
FAX: 772-464-1383
enginpod225@aol.com

BY	DATE
DESIGNED	RML 08/22/14
CALCS.	
DRAWN	RML 08/22/14
DETAILED	
CHECKED	RML
APPROVED	

SUNSET BEACH
STORMWATER POLLUTION PREVENTION PLAN

DATE: 08/22/14
HORIZ. SCALE: NONE
VERT. SCALE: NONE
JOB No. 14-009
SHEET 23 OF 26

STORMWATER POLLUTION PREVENTION GENERAL NOTES

1.0 SITE DESCRIPTION

1.a LEGAL DESCRIPTION

Government Lot 2, less the north 938.84 ft. and less the right-of-way, for S.R. A-1-A; and Government Lot 3, less the right-of-way for S.R. A-1-A, Section 29, Township 35S, Range 41E, St. Lucie County, Florida.

1.b LATITUDE -- LONGITUDE COORDINATES

LAT: 27° 24' 32"
LON: 80° 44' 59"

1.c NATURE OF CONSTRUCTION ACTIVITIES

PROPOSED SINGLE-FAMILY DEVELOPMENT. CONSTRUCTION ACTIVITIES CONSIST OF CONSTRUCTING ROADWAYS, CURB & GUTTER, SIDEWALKS, UNDERGROUND STORM SEWER, WATER MAINS, AND GRAVITY SANITARY SEWER W/ ON-SITE GRINDER STATION.

1.d SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES

1. PLACEMENT OF EROSION CONTROL DEVICES
2. CLEARING, EARTHWORK AND EXCAVATION OF PONDS
3. STORM AND SANITARY SEWER CONSTRUCTION
4. WATER MAIN & FORCE MAIN CONSTRUCTION
5. EARTHWORK ASSOCIATED WITH ROADWAY CONSTRUCTION
6. GRADING OF LOTS
7. OFFSITE ROADWAY & UTILITY IMPROVEMENTS
8. FINAL SEED & MULCH AND SODDING OF UNPAVED PROJECT AREA CALLED FOR IN PLANS.

1.e AREA ESTIMATES

TOTAL SITE AREA: 32.50 ACRES
TOTAL AREA TO BE DISTURBED: _____ ACRES

1.f RUNOFF DATA

RUNOFF COEFFICIENTS:
BEFORE: 0.2
DURING: 0.3 (VARIES FROM 0.2 TO 0.5)
AFTER: 0.4

SOILS DATA: THE GEOTECHNICAL REPORT IS PROVIDED BY THE PROJECT ENGINEER.

1.g SITE MAP

THE CONSTRUCTION PLANS AND **STORMWATER POLLUTION PREVENTION PLAN (SWPPP)** WILL SUBSTITUTE AS SITE MAPS. LOCATIONS OF THE REQUIRED INFORMATION ARE DESCRIBED BELOW. THE SHEET NUMBERS FOR ALL ITEMS DISCUSSED ARE IDENTIFIED ON THE KEY SHEET OF THE CONSTRUCTION PLANS.

- THE DRAINAGE FLOW PATTERNS ARE AS SHOWN ON THE PAVING & DRAINAGE PLANS.
- APPROXIMATE SLOPES ARE AS SHOWN ON THE ROADWAY PROFILES, AS WELL AS THE CROSS SECTIONS ON THE PAVING & DRAINAGE DETAIL SHEETS.
- AREAS OF SOIL DISTURBANCE ARE AS SHOWN ON THE SWPPP.
- AREAS NOT TO BE DISTURBED ARE AS SHOWN ON THE SWPPP.
- THE LOCATION OF SPECIFIED EROSION CONTROL DEVICES ARE AS SHOWN ON THE SWPPP AND REFERENCED IN THE SWPPP SPECIFICATION. THE STORMWATER PONDS ARE THE PRIMARY PERMANENT STORMWATER MANAGEMENT CONTROLS, AND ARE SHOWN ON THE PAVING & DRAINAGE PLANS.
- TEMPORARY STABILIZATION PRACTICES ARE SHOWN ON THE SWPP PLAN AND DETAIL SHEET. AREAS OF PERMANENT STABILIZATION ARE SHOWN IN THE TYPICAL SECTIONS ON THE PAVING & GRADING DETAIL SHEET.
- THE CONTRACTOR SHALL PROTECT THE ONSITE WETLANDS FROM SEDIMENT AND TURBID WATER. MECHANICAL EQUIPMENT IS PROHIBITED WITHIN THE LIMITS OF THE WETLANDS, AS SHOWN ON THE SWPPP.

1.h RECEIVING WATERS

SURFACE WATER DISCHARGE IS SHOWN ON THE PLAN SHEETS. THE SURFACE WATERS ON THE PROJECT DISCHARGE DIRECTLY INTO THE SUNSET BEACH DRY DETENTION SYSTEM. SURFACE WATER DISCHARGE OFFSITE IS ONLY ALLOWED UPON FINAL COMPLETION OF THE ON-SITE STORMWATER MANAGEMENT SYSTEM ONCE ALL SOD STABILIZATION IS COMPLETE, AND ONCE THE WATER QUALITY OF THE SURFACE WATER IS WITHIN THE ACCEPTABLE LIMITS ESTABLISHED BY FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (F.D.E.P.), THE A.C.O.E. AND ST. LUCIE COUNTY.

2.0 CONTROLS

2.a EROSION AND SEDIMENT CONTROLS

THE FOLLOWING DEFINES GENERAL QUANTITIES FOR THE SEQUENCE OF CONSTRUCTION AND THE USE OF STABILIZATION AND STRUCTURAL PRACTICES. THE CONSTRUCTION OF THE PROJECT IS EXPECTED TO LAST ONE YEAR:

1. INSTALL SOIL TRACKING PREVENTION DEVICES (STPD'S) AT ALL COMMON AREAS WHERE CONSTRUCTION VEHICLES WILL BE ENTERING AND EXITING THE PROJECT AS INDICATED ON THE SWPPP DETAILS SHEET 24 OF 29.
2. INSTALL TYPE III SILT FENCE PER DETAILS SHEET 24 OF 29, AS INDICATED ON THE SWPPP.
3. INSTALL ROCK BAGS IN FRONT OF ALL CURB & GUTTER INLETS ON PROJECT, PER DETAILS SHEET 24 OF 29, AS INDICATED ON THE SWPPP.
4. INSTALL HAY BALES AROUND ALL DITCH BOTTOM INLETS ON PROJECT, PER DETAILS SHEET 24 OF 29, AS INDICATED ON THE SWPPP.
5. INSTALL STAKED TURBIDITY BARRIERS PER DETAILS SHEET 24 OF 29, AS INDICATED ON THE SWPPP AT THE FOLLOWING LOCATION:
A) AT ALL OUTFALL PIPES INTO THE MANGROVE WETLAND AREAS.
B) OTHER AREAS AS DESIGNATED BY F.D.E.P., F.P.F.W.C.D., ST. LUCIE COUNTY, AND PROJECT ENGINEER AS DEEMED NECESSARY DUE TO ONGOING CONSTRUCTION ACTIVITIES.

2.b STABILIZATION PRACTICES

TEMPORARY:

SEED & MULCH IN ACCORDANCE WITH FDOT INDEX No. 104.

PERMANENT:

ASPHALT OR CONCRETE SURFACE. SOD IN ACCORDANCE WITH THE DESIGN PLANS.

ALL STABILIZATION PRACTICES SHALL BE INITIATED AS SOON AS POSSIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 30 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION IN THAT PORTION OF THE SITE HAS TEMPORARILY CEASED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP TO THE ENGINEER OF RECORD (E.O.R.).

2.c STRUCTURAL PRACTICES

TEMPORARY:

1. SILT FENCE IN ACCORDANCE WITH DETAILS SHEET 24 OF 29, AS SHOWN ON THE SWPPP.
2. STRAW BALES IN ACCORDANCE WITH DETAILS SHEET 24 OF 29, AS SHOWN ON THE SWPPP.
3. INLET PROTECTION IN ACCORDANCE WITH DETAILS SHEET 24 OF 29, AS SHOWN ON THE SWPPP.
4. THE SEDIMENT BASIN PERMANENT STORMWATER PONDS WILL BE TEMPORARILY MODIFIED ACCORDING TO THE DETAILS ON THE SWPPP. ADDITIONAL SWPPP DEVICES MAY BE UTILIZED AS DIRECTED BY THE PROJECT ENGINEER.
5. ALL SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBING ACTIVITY UPSTREAM OF THE CONTROL.

PERMANENT:

STORMWATER PONDS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTIANING BARRIERS AROUND ALL OUTFALL CONTROL STRUCTURES. ALL POND SIDE SLOPES SHALL BE SODDED IMMEDIATLY UPON SLOPE APPROVAL BY PROJECT ENGINEER. SOD SHALL EXTEND 2' BEYOND THE POND TOP OF BANK, AND PER THE LAKE EXCAVATION DETAIL. (IF APPLICABLE)

2.e STORMWATER MANAGEMENT

STORMWATER WILL BE CONVEYED IN THE STORM SEWER SYSTEM, CROSS DRAINS AND SWALES TO THE STORMWATER RETENTION/DETENTION PONDS.

2.f OTHER CONTROLS

1. WASTE DISPOSAL: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP AND PROVIDING THIS INFORMATION TO THE E.O.R. DISPOSAL OF ALL WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL AND STATE STANDARDS.
2. OFF-SITE VEHICLE TRACKING: THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP, AND PROVIDING THIS INFORMATION TO THE E.O.R.
3. STATE AND LOCAL REGULATIONS (WASTE, SANITARY, & SEPTIC): THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP, AND PROVIDING THIS INFORMATION TO THE E.O.R.
4. APPLICATION OF FERTILIZER AND PESTICIDES: FERTILIZER WILL BE APPLIED ACCORDING TO APPLICABLE SUBSECTIONS OF EITHER SECTION 570 OR 577 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DOCUMENTING THE USE OF PESTICIDES. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THIS INFORMATION TO THE E.O.R.

2.g STATE AND LOCAL PLANS

THIS PROJECT HAS AN ERP PERMIT EI-56-0264272-002, APPLICATION APPROVED BY THE FLORIDA DEPT. OF ENVIRONEMTNAL PROTECTION (F.D.E.P.) FOR MODIFICATION. COPIES OF THE PERMIT CAN BE PROVIDED BY THE ENGINEER OF RECORD.

3.0 MAINTENANCE

ITEM

SILT FENCE

STRAW BALES

PONDS

THE CONTRACTOR SHALL MAINTAIN RAIN GAUGES ON-SITE AND RECORD DAILY RAINFALL. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP, AND IS RESPONSIBLE FOR SUPPLYING THIS INFORMATION TO THE E.O.R.

4.0 INSPECTION

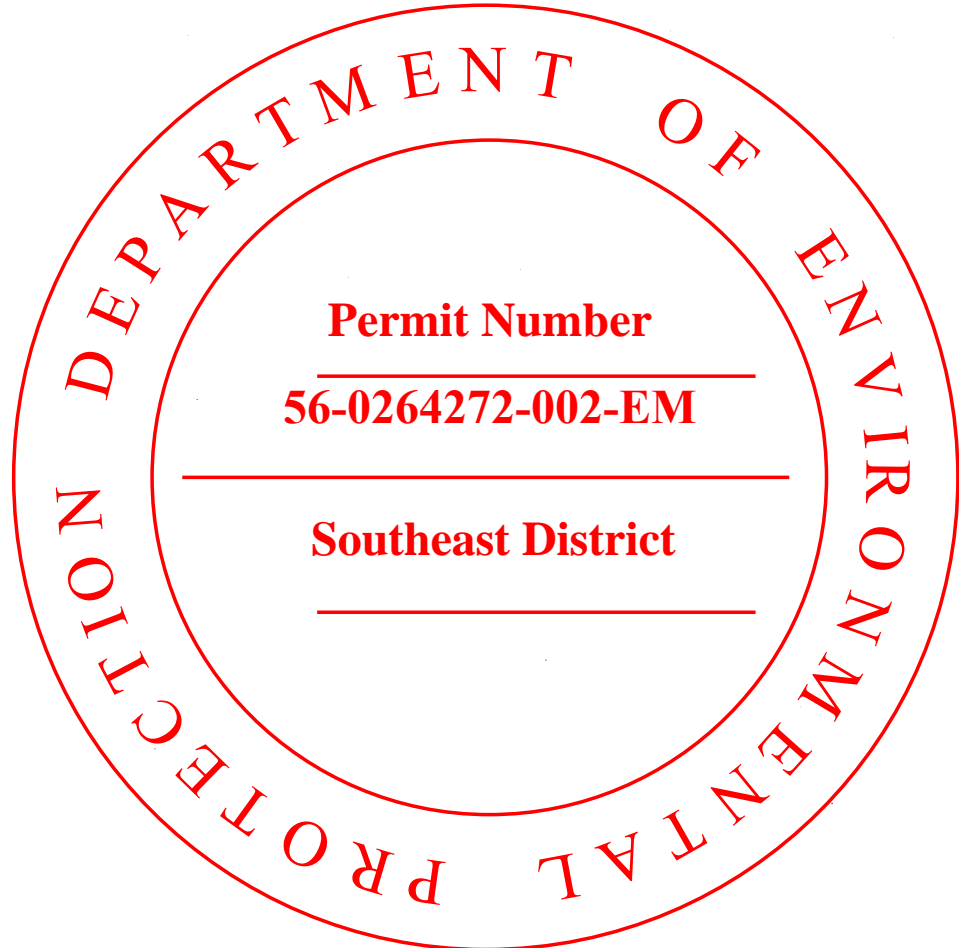
QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.50 INCHES OR GREATER. WHERE SITES HAVE BEEN FINALLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE ONCE EVERY MONTH.

- POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES
- POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM SYSTEMS
- DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED
- AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION
- STRUCTURAL CONTROLS
- STORMWATER MANAGEMENT SYSTEMS
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE

5.0 NON-STORMWATER DISCHARGES

THE CONTRACTOR IS REQUIRED TO SUBMIT A DEWATERING PLAN TO SFWMD FOR APPROVAL TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES THAT REQUIRE OFF-SITE DEWATERING. THIS PLAN SHALL INCLUDE ANY STOCKPILE AREAS AND EXCAVATION AREAS. SEE SFWMD RULES AND REGULATIONS REGARDING CONSUMPTIVE USE OF WATER SPECIFYING REQUIREMENTS FOR DEWATERING AND ERP APPLICATION SECTION E, SUBSECTION D CONSTRUCTION SCHEDULE AND TECHNIQUES.

THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP TO THE E.O.R. IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT THE LOCAL DISTRICT HAZARDOUS MATERIALS COORDINATOR.



ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- R E V I S I O N S -

BY DATE

COMPUTER
FILE REF.

FIELD BK./PG.

Ladyko
Design
Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 3690

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
enginpod223@aol.com

	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH

STORMWATER POLLUTION PREVENTION SPECIFICATIONS

DATE: 08/22/14

HORIZ. SCALE: NONE

VERT. SCALE: NONE

JOB No. 14-009

SHEET 24 OF 26

1. GENERAL

- A. Mobilization: Mobilization shall meet the requirements of FDOT Section 101. This work shall include, but is not limited to, operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by State and local laws and regulations. the costs of bonds and any required insurance, and any other preconstruction expense necessary for the start of work, excluding the cost of construction materials, shall also be included in this section. This section also includes any and all work related to the final cleanup.
- B. Construction Surveying: The Owner shall provide horizontal control consisting of property corners. The Owner shall also provide (2) benchmarks on the property. This control shall be provided one time only. The Contractor is responsible for all other construction surveying. The Contractor is responsible to protect these reference points and the construction staking throughout the job. The Contractor shall bear the cost of any necessary restaking.
- C. Soil Testing: Soil Testing shall be performed by a certified testing laboratory.

2. EARTHWORK AND GRADING

- Materials and construction methods for earthwork, excavation, embankment and grading shall meet the requirements of FDOT Section 120, the project specifications and shall be performed to acquire final grades, elevations and typical sections as shown on the plans for the proposed work.
- A. Clearing and Grubbing: Clearing and grubbing shall meet the requirements of FDOT Section 110 and shall be performed within the limits of the project work. This work shall include, but is not limited to, the removal of existing trees, brush stumps, roots and other objectionable material to a depth of 18 inches below the natural ground or design grade, whichever is lower. The areas to be cleared and grubbed generally consist of rights-of-way, utility easements, water management tracts, and portions of the lots as detailed on the plans. The Contractor shall confirm with the Owner the removal of any trees on the lots for possible preservation. All material shall be removed from the site of the project and shall be disposed of in accordance with local, regional, State and Federal laws, regulations and ordinances.
- B. Designated trees are to be preserved and the Contractor shall take all necessary action to ensure the preservation of the designated trees. The removal of any trees designated for preservation shall result in the Contractor replacing said tree with a tree of the same variety and of equal or greater size.
- C. Rough Grade: The Contractor shall grade the project site to meet the requirements of FDOT Sections 110 and 120 and shall conform to the lines, grades, and typical sections as shown on the plans.
- D. Fine Grade: The Contractor shall fine grade the pavement areas to meet the requirements of FDOT Sections 110 and 120 and shall conform to the lines, grades and typical sections as shown on the plans.
- E. Sod: Sod shall meet the requirements of FDOT Section 570, 575, and 981 and shall be placed adjacent to the curbing or edge of pavement for a minimum width of 24 inches.
- F. Seed and Mulch: Seed and mulch shall meet the requirements of FDOT Sections 570, 575, and 981 and shall be placed in all areas not designated for sod or landscape planting.

3. DRAINAGE IMPROVEMENTS

- Materials, trench excavation, pipe laying and backfilling operations for drainage improvements shall meet the requirements of FDOT Sections 125 and 430. Pipe shall be laid in true alignment in a pipe trench with an adequate supporting value and "bedded" to the detail shown in the plans and FDOT Section 430. All backfill shall be compacted to a minimum density of 95 percent of the maximum density as determined by AASHTO T-180, unless otherwise shown on the plans.
- The Contractor shall provide all materials and labor to complete the work for drainage improvements at the locations, sizes, and types shown on the plans for the following items:
- A. Reinforced Concrete Pipe: Reinforced concrete pipe shall meet the requirements of Class III of ASTM C-76, Wall Thickness "B", Latest Revision, as modified by FDOT Section 941. Gaskets for pipe joints shall be round rubber gaskets and shall meet the requirements of FDOT Section 942.
- B. Corrugated Metal Pipe: Corrugated metal pipe shall meet the requirements of A.A.S.H.T.O. M-36 and F.D.O.T. Section 943 and shall be constructed as shown on the plans.
- C. Corrugated Aluminum Pipe: Corrugated aluminum-alloy pipe shall meet the requirements of A.A.S.H.T.O. M-196 and F.D.O.T. Section 945 and shall be constructed as shown on the plans.
- D. Polyvinyl Chloride (PVC) Pipe: PVC pipe shall meet the requirements of F.D.O.T. Section 948 and A.S.T.M. F-794, latest revision, and shall be constructed as shown on the plans.
- E. High Density Polyethylene (H.D.P.E.) Pipe: H.D.P.E. pipe shall meet the requirements of F.D.O.T. and A.S.T.M., latest revision, and shall be air chamber construction. H.D.P.E. shall be constructed as shown on plans.
- F. Concrete Collar: Concrete collars shall meet the requirements of F.D.O.T. Standard Index No. 280 and shall be constructed to the detail shown on the plans.
- G. Type "E", "B" and modified "H" Inlet: Precast concrete catch basins shall meet the requirements of ASTM C-478 and 64T FDOT Section 425. Catch basins shall be Class I concrete and shall be constructed to the detail as shown on the plans.
- H. Storm Manhole and Control Structures: Storm manholes shall meet the requirements of ASTM C-478 and 64T FDOT Section 425. Storm manholes shall be Class I concrete and shall be constructed to the detail as shown on the plans.
- I. Mitered Ends: Shall meet the requirement of FDOT Roadway and Traffic Design Standards Standard Index No. 272. Pipe lengths shown on all the drawings shown on the drawings do not include the length of the mitered end as indicated on Index No. 272.
- Pipe lengths are intended to reflect the length of pipe from the centerline of the structure to the centerline of structure.
- Reduced Cover: All storm drains with less than the minimum cover indicated on the detail sheets shall have a thickened base constructed in accordance with the details contained in the plans.

4. PAVING IMPROVEMENTS

- All paved areas shall meet the requirements of AASHTO Specifications, FDOT and St. Lucie County and shall be constructed to the typical sections as shown on the plans.
- The Contractor shall retain the services of an independent testing laboratory to conduct all required testing and retesting to comply with these Specifications. The Owner shall bear the cost of initial testing and the Contractor shall correct any deficient work at his own expense.
- A. Asphaltic Concrete: Asphaltic concrete materials and construction methods shall meet the requirements of FDOT Sections 300, 320, 330 and 331 and shall be Type S. Prime Cuts shall meet the requirements of FDOT Sections 300-1 through 300-7 and shall have an application rate of 0.10 gallons per square yard, unless a variation rate is approved by the Engineer. Asphalt shall be placed in two (2) lifts where required.
- PER FDOT:
Match existing type and depth of asphalt to 3 1/2" maximum, including friction course.
- B. Base: The base course shall be compacted linerock or coquina shellrock in accordance with FDOT Section 250 and shall be of the thickness specified on the plans and as shown on the typical sections on the plans. The base shall be compacted to 98 percent of the maximum density as determined by AASHTO T-180. Construction methods shall be in accordance with FDOT Section 250.
- C. Subgrade: The subgrade shall be of the thickness specified on the plans and construction shall be per FDOT Section 160. Subgrade shall extend six inches beyond the edge of the base course or back of curb with in the limits shown on the plans. Subgrade shall be compacted to 98% of the maximum density as determined by AASHTO T-180 and shall have a minimum Florida Bearing Value of 75 p.s.i. If normal construction methods do not meet the required densities, the subgrade shall be stabilized as directed by the Engineer.
- D. Type "D" & "E" Curb: Concrete Type "D" & "E" curb shall meet the requirements of FDOT Section 520 and shall be constructed to the typical section as shown on the plans.
- E. "Header" Type Curb: Concrete "Header" type curb shall meet the requirements of FDOT Section 520 and shall be constructed to the typical section as shown on the plans.
- F. Concrete Sidewalk: concrete sidewalk shall meet the requirements of FDOT Section 522 and shall be constructed to the typical sections shown on the plans.
- G. Painted Traffic Striping: Painted traffic stripes shall meet the requirements of FDOT Section 710. 6" wide white stripes shall be used for the centerline and edge-of-pavement.
- H. Stop Sign and Bar: Stop signs and bars shall meet the requirements of FDOT Section 700 and the Manual of Uniform Traffic Control Devices and shall be constructed in the locations as shown on the plans.
- J. Portland Cement Concrete: Portland cement concrete materials and construction methods shall meet the requirements of F.D.O.T. Sections 345, 350 and 356. Concrete shall be 3,000 psi.

THE WORK

Existing Utilities and Structures:
Existing utilities, structures and facilities shown on the Drawings were located as accurately as possible from the records examined. No guarantee is made that all existing facilities are shown or that those shown are entirely accurate. The Contractor shall assure himself of the actual location of the utilities, structures, or facilities prior to performance of any work in the vicinity. The utility companies or utility agencies will co-operate with the Contractor's operations. Prior to start of the work, the Contractor shall request each utility agency to advise him of the location of their facilities in the vicinity. The Owner will assume no liability for damages sustained or cost incurred because of the Contractor's operation in the vicinity of existing utilities or structures, or to the temporary bracing and shoring of same. In the event that it is necessary to shore, brace, or swing a utility, the utility company or department affected should be contacted and their permission secured as to the method used for any such work.

Restoration of Damaged Structures or Utilities:
It shall be the responsibility of the Contractor to repair, rebuild or restore to its former condition, any and all portions of existing utilities, structures, equipment, appurtenances or facilities, other than those to be paid for under this contract, which may be disturbed or damaged due to this construction operation, at no cost to the Owner.

Final Cleanup:
Upon completion of the work, but before final payment will be made, the Contractor shall clear and remove from the project area, all falsework, equipment, surplus and discarded materials, rubbish and temporary structures which result from the work under this Agreement, and shall restore in an acceptable manner, all property which has been damaged during the prosecution of the work.

Guarantee:
All materials and the installation thereof which are furnished and installed by the Contractor, under the terms of the Agreement, shall be guaranteed by the Contractor against defective workmanship, mechanical and physical defects, leakage, breakage, and other damages and failure under normal operation for a period of one (1) year from the date of final payment, said date to constitute the commencement of the one (1) year warranty period. All materials and installations proving to be defective within the specified period of the guaranty shall be replaced, without cost to the Owner, by the manufacturer or the Contractor. The period of guarantee of each such replacement shall be from and after the date of installation thereof.

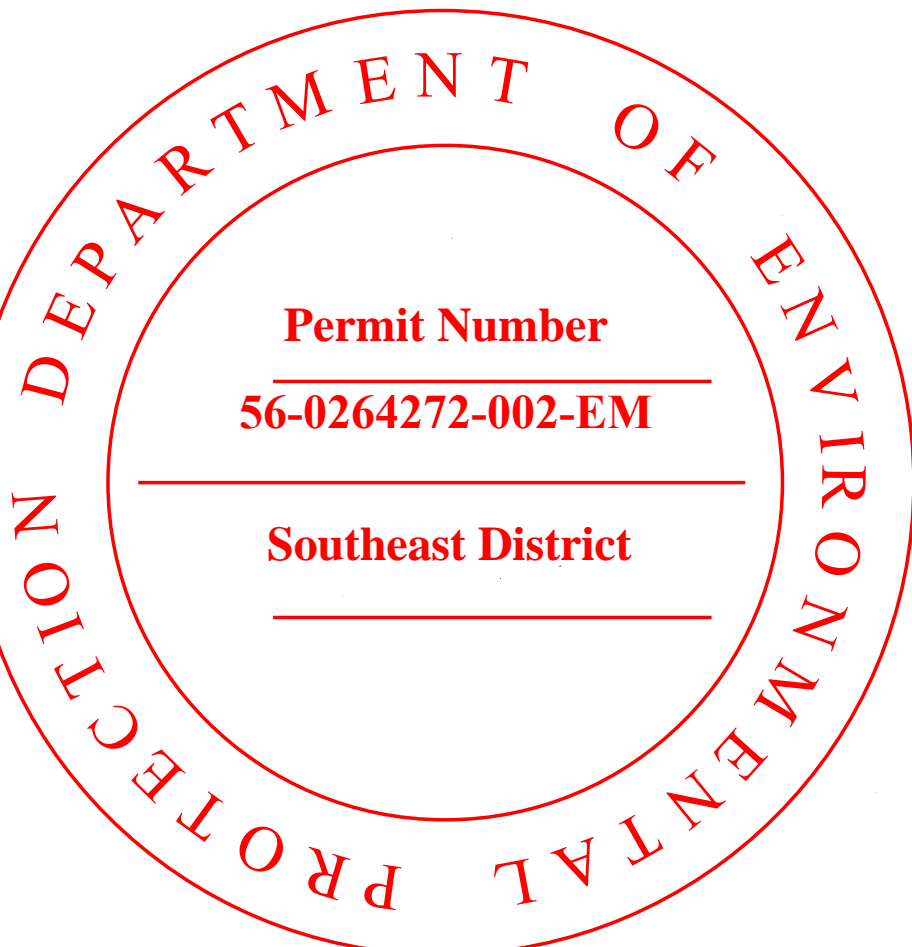
Record Information:

- Upon completion of the work, but prior to submittal of the request for final payment, the Contractor shall obtain and submit record information to the Owner. This information shall include the following:
- Water and Wastewater Systems:
 - Horizontal and Vertical location and size of all water mains, meters, services, valves, and hydrants;
 - Record Drawing information for Sanitary Sewer Systems shall comply with Section 01100-1.4 of the St. Lucie County Utility Design Standards.
 - Drainage System:
 - High points and low points of swales;
 - Locations and grate and invert elevations of all structures;
 - Location, size, type, length and invert of all culverts.
 - Paving and Grading:
Location and elevation of high and low points in roadway and any other design spot elevation shown.

The record information shall be certified by a Florida Professional Land Surveyor. Locations shall be made by reference to centerline stationing and offset or by other means acceptable to the Owner. Elevations shall be according to National Geodetic Vertical Datum (NGVD). The information shall be submitted on a clean set of construction drawings which can be obtained from the Engineer.

STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICTS

- New or relocated, underground water mains included in this project will be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer, storm sewer, storm water force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer (or a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer if the bottom of the water main will be laid at least six inches above the top of the sewer); a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and a horizontal distance of at least ten feet between the outside of the water main and all parts of any existing or proposed "on-site sewage treatment and disposal system." [FAC 62-555.314(1); exceptions allowed under FAC 62-555.314(5)]
- New or relocated, underground water mains that are included in this project and that will cross any existing or proposed gravity- or vacuum-type sanitary sewer or storm sewer will be laid so the outside of the water main is at least six inches above the other pipeline or at least 12 inches below the other pipeline; and new or relocated, underground water mains that are included in this project and that will cross any existing or proposed pressure-type sanitary sewer, wastewater or storm water force main, or pipeline conveying reclaimed water will be laid so the outside of the water main is at least 12 inches above or below the other pipeline. [FAC 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]
- At the utility crossings described in Note 1 above, one full length of water main pipe will be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline or the pipes will be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, storm water force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. [FAC 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]



ST. LUCIE COUNTY UTILITIES
WASTEWATER CONSTRUCTION NOTES

- Materials, construction methods, required tests, testing methods and construction tolerances for the wastewater collection and transmission system shall meet the requirements of the current Specifications, FDEP, and St. Lucie County Utilities.
- Materials, trench excavation, pipe-laying and backfilling operations shall meet the requirements of FDOT Sections 125 and 430. Pipe shall be laid in true alignment in a dry pipe trench with an adequate supporting value. If normal dewatering efforts fail as specified in FDOT Section 430, a minimum six inch compacted rock bed shall be used. All backfill shall be compacted to a minimum density of 95 percent of the maximum density as determined by AASHTO T-180, unless otherwise shown on the plans. Pipe laying shall proceed upgrade with spigot and pointing in the direction of the flow.
- Gravity sewer main shall be polyvinyl chloride SDR-35, green in color, with the words "SANITARY SEWER" written on the pipe at regular intervals and shall have thin wire & locator tape w/"SEWER" marked on tape and shall conform to ASTM D-3034.
- Sanitary Manhole: Precast sanitary manholes shall meet the requirements of the St. Lucie County Utilities Department and shall be constructed in the locations, elevations, and dimensions as shown on the plans. Manholes shall have two coats of coal tar epoxy applied to the exterior, base, and foundation, and shall be set plumb to line and grade and shall rest on a carefully graded, uniform bearing base.
- All concrete and mortar mixed on-site (field mixed) for use on any component of the wastewater collection system shall be made with Type II Portland cement, masonry sand, clean properly sized gravel (if required) and clean, fresh water. In no case shall local on-site sand/dirt, rock or stones be used.
- Prior to placing any mortar/concrete/grout mix, the opening shall first be thoroughly prepared in accordance with the manufacturer's instruction and then a liquid bonding agent shall be applied to the surface(s) per the manufacturer's instructions. The bonding agent of choice shall be Acryl 60 as manufactured by Thoro System Products or an Engineer-approved equal.
- The approved group mixture for performing all concrete repairs, filling all voids between pipe and concrete wall and plugging leaks in concrete structures shall be Master Buildings Masterflow 713 Grout or Engineer-approved equal, properly plugged as shown on plans.
- Density Tests of the trench backfill material shall be required at the trench bottom and each lift of backfill at intervals of no more than 500 feet. Density Tests of pavement open cut areas including roads, turnlanes and drives shall be required at intervals of not more than 50 ft. Compaction shall be in accordance with the "typical trench detail" and "flexible pavement replacement detail". A certified copy of the tests shall be provided to the District. Density Testing shall be conducted by an independent testing lab approved the District.
- A 1% minimum slope shall be maintained on all sanitary service laterals.
- The Contractor shall furnish record drawing information to the Engineer consisting of pipe sizes, location of service tees, diameter of service, location of any fittings, final rim and invert elevation of all manholes and any other pertinent information necessary to locate items constructed under this project. Record Drawing information shall comply with Section 01100-1.4 of the St. Lucie County Utilities Design Standards.
- Maintain 3.05m (10') horizontal distance between water mains and sewer mains as a minimum.
- Wastewater force mains, wastewater collection lines, and storm sewer shall cross under water mains whenever possible. A minimum vertical distance of 450mm (18") between the invert of the upper pipe and the crown of the lower pipe shall be provided whenever possible. where the minimum separation cannot be maintained, the crossing shall be arranged so that the wastewater pipe joints and the water main pipe joints are equidistant from the point of crossing, and the water main shall be constructed of ductile iron pipe (DIP) at the crossing. Sufficient lengths of DIP must be used to provide a minimum separation of 3.05m (10') between any two joints. The price of ductile fittings, meeting the requirements ANSI A21.10 (AWWA C-100), shall be included in this cost. All joints on the water main within 6.09m (20') of the crossing must be mechanically restrained. A minimum vertical clearance of 150mm (6") must be maintained at all crossings. DIP shall be epoxy coated per St. Lucie County Utilities standards and specifications.
- A pre-construction conference between the Engineer, the Contractor and St. Lucie County Utilities shall be mandatory prior to commencement of construction.
- No field changes or deviations from the design shall be made without prior approval of the Engineer and St. Lucie County Utilities.
- Traffic control, barricades, etc., shall be in accordance with the Florida Department of Transportation Standards.
- Contractor shall notify St. Lucie County Utilities 48 hours prior to commencing construction.
- Fittings shall be ductile iron, standard body, conforming to AWWA C-110 and ANSI A21.11, Class 250 minimum, Cement lined & seal coated. Fittings for HDPE force mains shall be HDPE fully pressure rated equal to the connecting pipe meeting the requirements of Section 02620-2.3-C.
- Minimum cover shall be 0.914m (36"), pipes with cover less than 0.761m (30") shall require prior approval of the Utilities Engineer and shall be constructed of ductile iron pipe.
- Each service lateral will be marked with a locator ball as manufactured by 3M Corporation, or approved equal.
- All manholes shall have sewer rain guards installed as manufactured by FOSROC/PRECO Industries or South West Packing and Seals, or approved equal.
- The Contractor shall comply with the Florida Trench Safety Act requirements.
- Materials: Force main material shall be DR 11, HDPE, complying with Section 02620 of the St. Lucie County Standard Specifications. Irrigation Quality Resue main material shall be DR 18, C900 PVC, complying with Section 02731-2.1-B of the St. Lucie County Standard Specifications.
- Testing: The Engineer shall visually inspect all gravity sewer mains with the aid of mirrors and lights to verify conformance to the requirements of the St. Lucie County Utilities. This inspection shall be performed after the completion of all manholes, connection of all services and all compaction efforts, but prior to paving. A full pipe diameter shall be visible between manholes. The Contractor shall repair and replace any portion that does not meet the specifications at his own expense. Gravity collection systems shall be tested in accordance with Section 02735-3.2 of the St. Lucie County Utility Design Standards.

All force mains shall be pressure and leakage tested to meet the requirements of the St. Lucie County Utilities which shall be the same as the requirements as water mains, except the test pressure shall be 100 psi. Force mains shall be pigged with engineer and St. Lucie County Utilities representatives present. Force mains shall be tested in accordance with Section 02760 of the St. Lucie County Utility Design Standards.

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

- Materials, construction methods, required tests, testing methods and construction tolerances for the potable water system shall meet the requirements of the current AWWA Specifications, FDEP, FDOT, and Ft. Pierce Utilities Authority.
- Materials, trench excavation, pipe-laying and backfilling operations shall meet the requirements of FDOT Sections 125 and 430. Pipe shall be laid in true alignment in a dry pipe trench with an adequate supporting value and "bedded" to the detail as shown on the plans and FDOT Section 430. All backfill shall be compacted to a minimum density of 95 percent of the maximum density as determined by AASHTO T-180, unless otherwise shown on the plans.
- Water main where specified as polyvinyl chloride shall conform to AWWA C-900 or C-905 Pressure Class 150, DR (18).
- Water main, where specified as ductile iron pipe, shall conform to ANSI A-21.51 or AWWA C-151, and shall be Class 50 (minimum).
- Polyvinyl chloride water main shall be blue in color or white in color. Both shall have the words "WATER MAIN" printed permanently on three sides for the length of the pipe. The use of FPUA approved identification tape attached to the top of the water main is acceptable in lieu of permanently printing on three sides.
- Fittings shall be ductile iron, standard body, conforming to AWWA C-110 and ANSI A21.11, Class 250 minimum, cement lined, and seal coated.
- Gate valves shall be Mueller Resilient Seat, Kennedy Ken-Seal, American, or approved equal. Valves shall conform to AWWA C-509.
- Water lines shall be backfilled and compacted in accordance with FPUA Design and Construction Standards. The contractor shall submit certified density tests as required by FPUA Engineering. In cases where paved areas fall within the jurisdiction of local or state agencies, the compaction requirements shall not be less than the minimum required by the appropriate responsible agency.
- No field changes or deviations from the design shall be made without prior approval of the FPUA & City, County and FDOT Engineer.
- Contractor shall notify FPUA Engineering 48 hours prior to commencing construction.
- A pre-construction conference between the Engineer, the Contractor and Fort Pierce Utilities Authority shall be mandatory prior to commencement of construction.
- Traffic control, barricades, etc., shall be in accordance with the Florida Department of Transportation Standards.
- Minimum cover shall be 0.914m (36") except as approved by the Utilities Engineer. Pipes with cover less than 0.761m (30") shall be constructed of ductile iron pipe.
- Disturbed areas shall be restored in conformance with the applicable governing agency requirements.
- Existing utilities shall be field verified prior to construction and protected by the Contractor.
- Water mains shall be tested and disinfected in accordance with the applicable Florida Department of Environmental Regulations and AWWA C-651 for disinfection.
- The Contractor shall be responsible for maintaining existing utilities.
- The Contractor shall furnish record drawing information to the Engineer including locations of valves, fittings, service connections, blowoffs, air release valves, and any other pertinent information necessary to locate items constructed under this project, as required by the Utilities Engineer.
- The contractor shall top existing lines under the supervision of Fort Pierce Utilities Authority only after testing and disinfection has been completed and approved on the tapping valve and sleeve.
- Water main shall be marked by the use of continuous 12 gauge THHN wire (blue in color) permanently attached to the top of the water main in accordance with the Fort Pierce Utilities Authority specifications.
- Service taps shall be placed approximately 3.05m (10') away from gate valves, as shown, for testing. Following testing and sterilization of water line, Contractor shall place a brass plug in corporation stops and curb stops shall be removed from testing locations.
- Mechanical restraints to be used on all fittings and placed in accordance with manufacturer's recommendations and FPUA requirements.
- Where a water main is to be installed below a storm drain pipe, a minimum 150mm (6") of vertical clearance between pipes shall be maintained unless otherwise directed by the Engineer. The water main shall be constructed of DIP at the crossing, and shall be mechanically restrained within 6.09m (20') of the crossing.
- All mains shall be tested at a minimum of 150 psi. Testing methods shall conform to AWWA C-600.
$$L = \frac{SD^2}{133,200} \times \frac{1}{2}$$
$$L = \text{Leakage in GPH}$$
$$S = \text{Length of pipe in feet}$$
$$D = \text{Pipe diameter in inches}$$
$$P = \text{Testing pressure in psi}$$
- Prior to any testing, all mains 6" in dia. and larger shall have a line size swab passed thru the entire length of the line, note: swab should be placed in 1st. joint of new line, end of main should be "turned up" at 45K and extended so that swabbing and a full bore flush can be accomplished. blow-off asssy then be placed, where lines branch, swabs will be placed in branch lines and sequentially swabbed and flushed.
- Ten feet minimum horizontal and 18 inches minimum vertical separation shall be maintained between the water main and any wastewater lines. the distance shall be measured from outside of pipe to outside of pipe or structure, where this minimum separation cannot be maintained, the crossing shall be arranged so that the wastewater pipe joints and the water main pipe joints are equidistant from the point of crossing, and the water main shall be constructed of ductile iron pipe (dip) at the crossing, sufficient lengths of dip must be used to provide a minimum separation of 10 feet between any two joints. all joints on the water main within 20 feet of the crossing must be mechanically restrained, a minimum vertical clearance of 6 inches must be maintained at all crossings.
- Where a water main is to be installed below a storm drain pipe, a minimum of 6 inches of vertical clearance between pipes shall be constructed of dip at the crossing, and shall be mechanically restrained within 20 feet of the crossing.
- Contractor shall comply with Florida Trench Safety Act requirements.

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.) TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -
REVISIONS PER F.P.U.A. & ST. LUCIE COUNTY UTILITIES

BY DATE
RML 1-06-16

COMPUTER FILE REF. FIELD BK./PG.

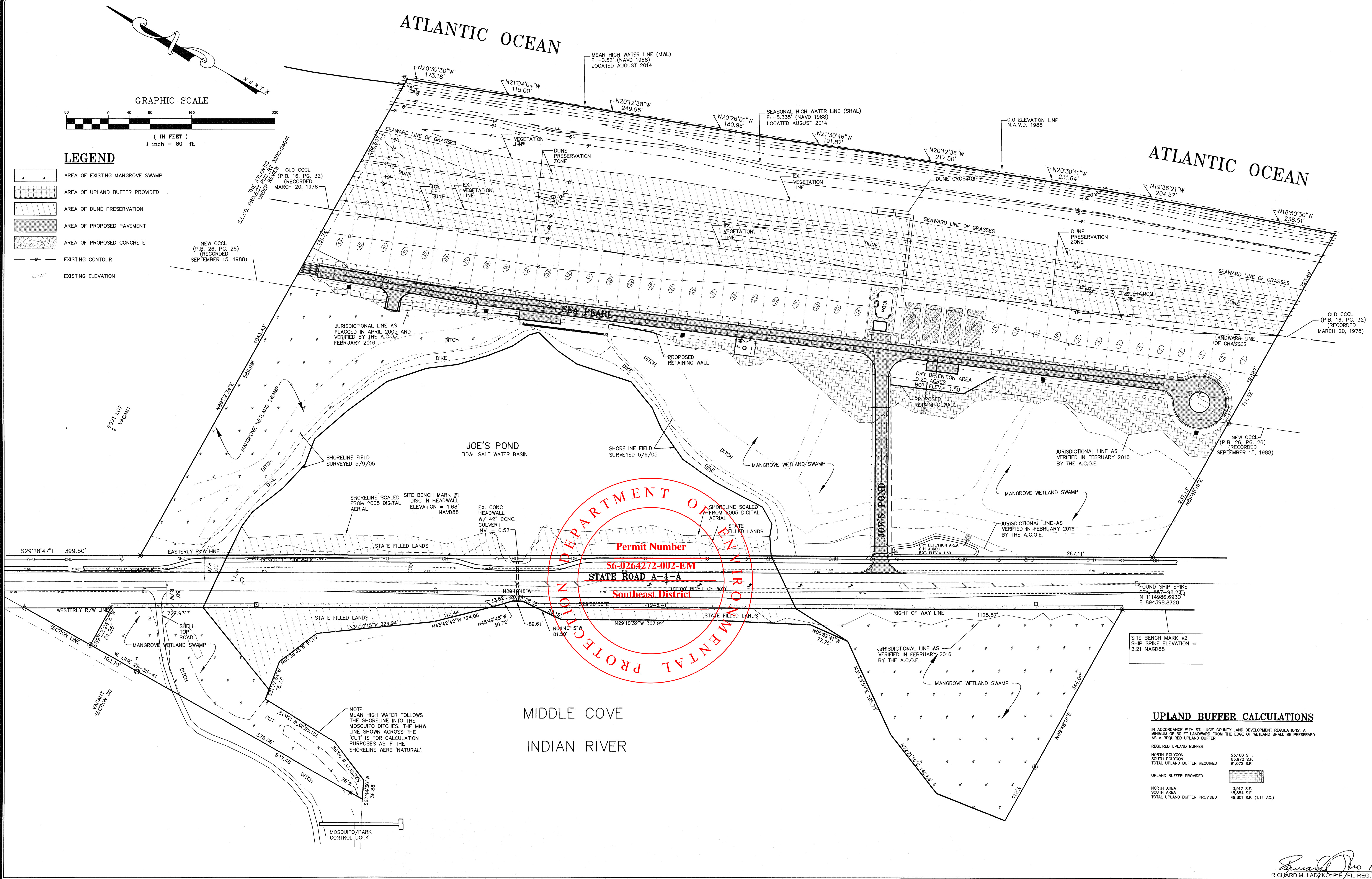
Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 28610

4400 BELLE GROVE DRIVE
FT. PIERCE, FL 34981
PHONE: 772-530-8261
FAX: 772-464-1383
engnpod229@aol.com

BY DATE
DESIGNED RML 08/22/14
CALCS.
DRAWN RML 08/22/14
DETAILED
CHECKED RML
APPROVED

SUNSET BEACH
SPECIFICATIONS

DATE: 08/22/14
HORIZ. SCALE: NONE
VERT. SCALE: NONE
JOB No. 14-009
SHEET 25 OF 26



DEPARTMENT OF ENVIRONMENTAL PROTECTION
Permit Number
56-0264272-002-EM
STATE ROAD A-1-A
Southeast District

UPLAND BUFFER CALCULATIONS

IN ACCORDANCE WITH ST. LUCIE COUNTY LAND DEVELOPMENT REGULATIONS, A MINIMUM OF 50 FT LANDWARD FROM THE EDGE OF WETLAND SHALL BE PRESERVED AS A REQUIRED UPLAND BUFFER.

REQUIRED UPLAND BUFFER	25,100 S.F.
NORTH POLYGON	65,972 S.F.
SOUTH POLYGON	91,072 S.F.
TOTAL UPLAND BUFFER REQUIRED	157,044 S.F.
UPLAND BUFFER PROVIDED	3,917 S.F.
NORTH AREA	45,854 S.F.
SOUTH AREA	46,801 S.F. (1.14 AC.)

ALL ELEVATIONS SHOWN HEREON REFER TO 1988 (N.A.V.D.). TO CONVERT TO 1929 (N.G.V.D.) ADD 1.50 FEET.

- REVISIONS -		BY	DATE
UPDATE BASE MAP		RML	9/07/16
REVISE BRIDGE LOCATION		RML	9/07/16

COMPUTER FILE REF.	FIELD BK./PG.

Ladyko Design Group, LLC
ENGINEERS, PLANNERS & CONSTRUCTION MANAGERS
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NO. 28630

4400 BELLE GROVE DRIVE
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	BY	DATE
DESIGNED	RML	08/22/14
CALCS.		
DRAWN	RML	08/22/14
DETAILED		
CHECKED	RML	
APPROVED		

SUNSET BEACH
MITIGATION PLAN

DATE: 08/22/14
HORIZ. SCALE: 1"= 80'
VERT. SCALE: NONE
JOB No. 14-009
SHEET 26 OF 26